

Systema Medicinale,
A
COMPLEAT SYSTEM
OF
PHYSICK,
Theorical and Practical.

In Six Books.

Containing the Names, Definitions, Differences,
Parts affected, Signs, Causes, Prognosticks, and Va-
rious Methods of Curing all the Principal Diseases,
happening to the Bodies of

Men, Women, and Children. R

Translated out of Latin into English, out of the most
Learned *John Doleus*, being a Summary of the Ancient and
Modern Way of Practice, collected chiefly from *Hippocrates*,
Galen, *Paracelsus*, *Helmont*, *Willis*, *Sylvius*, *Cartesius*, and others;
wherein both the *Galenick* and *Chymick* Methods are particular-
ly and specially Explicated and Exemplified: Brought into this
portable Volume for the Publick Good.

Whereunto is Annexed

A Prefatory Discourse concerning the Method of Stu-
dying and Practising Physick; and other Accommodations re-
lating to the same.

Written by *WILLIAM SALMON* Professor
of Physick, living at the Blew Balcony by the Ditch-side, near
Holborn-Bridge, LONDON.

Licensed, January 24. 168 $\frac{1}{2}$.

ROBERT MIDGLEY.

London, Printed for T. Passinger at the three Bibles on
London-Bridge, T. Sawbridge in *Little Brittain*, and T. Fleisher
over against *Distaff Lane* in the *Old Change*. 1686.



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THE PREFACE.

I. **W***Hat we are to inform the Reader of here, are principally two things : the one is concerning the Original of this Work : the other concerning the method of studying and practising the Art of Physick and other Accommodations relating to the same.*

II. *The Author hereof was one John Dolæus, Doctor of Physick, and a German Vertuoso, one of that Society which has published the German Ephemerides ; a Work much like our Philosophical Transactions of the Royal Society. He was also Physician to the Landgrave of Hesse, and in his own Person accompanied that Illustrious Prince, in the Famous Expedition to raise the Seige of Vienna.*

III. *As to the Work, we shall leave it to speak for it self, being founded upon the Divine Hippocrates, and his Interpreter Galen, and compleated from the Advancements of Paracelsus, Helmont, Sylvius, Cartesius, Willis, and their Followers ; besides the Author's own Experience, who with an exact Judgment has given you the Sum of the old and new Physick, the Galenical and Chymical Theory and Practice. So that having this one Author, you have a Library, and the Sum of all you can expect from*

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So many Volumes. And he has been so ample upon some Diseases, that he has laid (as it were) the Foundations of the Art therein, and given you an Exemplar, how to do the like in others.

IV. *Here is also given a Solution of the Cause of Diseases, according to the Cartesian Principles, which I confess, I have not met with else where, in other Authors. And although you will find herein much new matter, yet nothing, but what is confirmed by the Suffrage of Great Judgments, and the most Learned Men of this latter Age.*

V. *The next thing which we are to instruct you in, is, The Method of studying and practising Physick; which because we cannot so well do, unless we render you an Account of the whole Art, and of its Parts, be pleased to take it in the following Words.*

VI. *Physicians have divided the Art, some into five Parts, viz. Physiologia, Pathologia, Semiotica, Hygieine, and Therapeutica: Some but into four Parts, viz. Physiologia, Pathologia, Hygieine, and Therapeutica: Others but into three Parts, viz. into the Physiologicks, the Pathologicks, and the Therapeuticks, which last Division, best suits with our intended Method.*

VII. *Φυσιολογική, in Rerum naturalium Contemplatione Versatur; wherein is considered the Anatomicks; 1. In the Structure of the Humane Body. 2. In the Physical State of the same.*

VIII. *Anatome, or the Structure of Man's Body, is a complete description thereof, representing in a proper method, both with fit Words and curious Figures, the exquisite Idea of the whole Humane Frame. The Order whereof in few Words, we have already*

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already done in a particular Treatise at the latter end of our Synopsis Medicinæ, the latter Edition.

IX. *The Physical State of the same, is considered in the disquisition of all natural things relating to the aforesaid Compositum, in respect of Formation, Structure, Composition, Preservation, Agitation, Affections, and Dissolution; wherein also is considered, 1. The Materia Medica. 2. The Parascuologia.*

X. *The Materia Medica, is considered in a threefold respect, as it has relation to the threefold Kingdom; viz. Vegetable, Mineral, and Animal.*

XI. *Botonologia, or Phytologia, is that which teaches the Figures, Names, Kinds, Descriptions, Differences, Places, Times, Temperature, Appropriations, Virtues, Uses, Qualities, and various Preparations of Vegetables; as they have relation, 1, To English Herbs and Plants. 2. To English Trees and Shrubs. 3. To Exoticks, so many as we use in Physick. The which we have already completely performed, in a Folio Herbal now in the Press.*

XII. *Minerologia, is that which teaches the Names, Kinds, Choice, Growth, Virtues, Use, Qualities, and various Preparations of all Mineral Bodies, viz. of Earth, Stones, Salts, Sulphurs, Excrements of Metals, Semi-metals, and Metals.*

XIII. *Zoologia, is that which teaches the Icon, Names, Kinds, Descriptions, Place, Virtues, Uses, Qualities, and Preparations of all Kinds of Animals, viz. of Birds, Beasts, Serpents, Fishes, and Insects.*

XIV. *The Parascuologia, is considered as it has*

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relation, 1. To the Preparation of Medicines, 2. To the Medical Store.

XV. *The Preparation*, is that which teaches the various ways of fitting, preparing, and making up of Medicaments, according to the Galenick, Chymick, and Rational Methods, and that from the whole Materia Medica, whether Vegetable, Mineral, or Animal.

XVI. *The Galenick Method*, teaches the way of Preparation of all sorts of Medicaments from the whole Materia Medica, which are, I. Internal, as, 1. Infusions. 2. Decoctions. 3. Emulsions. 4. Syrups. 5. Juleps. 6. Lohochs. 7. Quidstones. 8. Preserves. 9. Conserves. 10. Sugars. 11. Powders. 12. Electuaries. 13. Pills. 14. Troches. II. External, as, 1. Lotions. 2. Oyls. 3. Balsams. 4. Ointments. 5. Cer cloths. 6. Emplasters. 7. Cataplasms. 8. Clysters.

XVII. *Chymistry*, teaches the way of the Preparation of various kinds of Medicines from the whole Materia Medica also; the chief of which are, 1. Waters distilled. 2. Spirits. 3. Oyls distilled. 4. Balsams distilled. 5. Powers. 6. Elixers. 7. Tinctures. 8. Extracts. 9. Magisteries. 10. Salts. 11. Liquors. 12. Wines. 13. Vinegars. 14. Essences. 15. Flowers. 16. Glafs. 17. Sulphurs. Of all which, both Galenick and Chymick, many Examples may be seen in our Pharmacopœia Londinensis, of late Tears emitted into the World.

XVIII. *The Rational Method*, teaches how to prepare likewise, from the whole Materia Medica, these several Forms, 1. Waters, 2. Oyls. 3. Balsams. 4. Spirits. 5. Powers. 6. Elixers. 7. Tinctures.

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*Tinctures. 8. Essences. 9. Species. 10. Empla-
sters, according to a natural and rational way,
wherein the Virtues, Powers, and Forces of Me-
dicines are intirely preserved, without Addition,
Diminution, or Alteration.*

XIX. *The Pharmacologia, or Medical Store,
(which the Prudence of Antiquity, and Wisdom of
all Ages, has ordered to be kept in the Apothecaries
and Chymists Shops, to answer the Exigency of all
Occasions) contains the Names, Number, Compositi-
ons, Preparations, Virtues, Uses, and various Doses,
of certain select, approved, and experienced Medi-
caments; together with an Estimate of the Powers
and Forces of those mostly in use, which the prudent
Physician is to draw forth, and use as the nature and
necessity of his occasion requires. The which we have
already done in Our Pharmacopœia Londinensis,
hitherto of the Physiologick Part of Physick; the
Pathnologick follows.*

XX. *Παθολογική, in rerum præter naturam con-
sistit. Wherein is considered the General Method
of Indications of Diseases, Diagnostick, Ætiolo-
gick, and Prognostick.*

XXI. *The Diagnosticks, shew (not so much sim-
ply the Signs of Diseases, as) the Signs of the vari-
ous Causes, whereby the cause may be known and un-
derstood: for if the Disease be known by its Pa-
thognomick Signs, yet if the Cause be not under-
stood, the Cure will be very doubtfully attempted;
for the Medicaments for removing of the Di-
sease, must be tempered, according to the Na-
ture, Variety, and Mixture of Causes effecting.*

XXII. *The Ætiologicks, shew the several and
various*

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various Causes of Diseases, according to their several Kinds or Differences: for as one Disease may have several Causes from which it may arise; so the several Kinds or Differences of it, will yet have different Causes from the first, either simple or mixed, according to the Symptoms and Complication of the Disease.

XXIII. *The Prognosticks, are deduced from the Symptomick Appearances of the Disease; whence, according to the Strength and Vigor of the Sick, the Vehemency or Remissness of the Symptoms, and their various alterations or changes, the Physician is made able to judge, whether the Disease may be curable or not, or probably may end in Life or Death. The Therapeuticks, now remain to be considered.*

XXIV. *Θεραπευτικὴ, medendi rationem Dietâ, Chyrurgiâ, Pharmaciâque præscribit. Herein is considered the General Indications of Cure, Diætetick, Chyrurgick, and Pharmaick.*

XXV. *Hygieine, or the Diætetick Cure, is considered in a two-fold respect. 1. As it has relation to the preservation of Health, or prevention of Diseases, consisting in the true Knowledge and right Government of the Body in respect to the six Non-naturals. 2. As it has relation to the Government and Diet of the diseased.*

XXVI. *Chyrurgia, or Chyrurgery, teaches the Names, Numbers, Kinds, Parts affected, Signs, Causes, Judgments, and particular ways of Curing all external Diseases; As 1. Tumors. 2. Wounds. 3. Ulcers. 4. Fractures. 5. And Dislocations. Together with the Names, Numbers, Descriptions, and*

The Preface.

and several Uses of all the Chyrurgick Instruments; and the Method of Pollicination or Embalming, whether Ancient, as the Egyptian and Jewish; or Modern, as the Greek, Roman, or English.

XXVII. *Pharmaica, the Pharmaicks commonly and properly with us called Physick, is that which teaches us the Names, Kinds, Parts affected, Signs, Causes, Judgments, and various ways of Curing of all Internal Diseases, whether General or Particular, Acute or Chronick, happening to the Bodies of Men, Women, and Children.*

XXVIII. *Thus in short have we run through the whole Art of Physick in its principal Branches (to descend to particulars in this place we cannot) wherein you must note, that the NAMES. 1. Of the Principal Parts of Man's Body. 2. Of Diseases. 3. Of Herbs, Plants and Trees. 4. Of Minerals, as Metals, Semi-metals, Stones, and Earths. 5. Of Animals, as Birds, Beasts, Serpents, Fishes, and Insects, are to be known, learned, and understood in Greek, Latin, and English, that the Industrious Artist may be the more ready for the reading and understanding of Authors: And withal, that he be knowing and skilful, in all the Icons or Figures used in the Medical Learning, whether Anatomical, Chyrurgical, Phytological, Zoological, or Chymical, that he may not be imposed upon by any Medicafter pretending to our Art.*

XXIX. *In order therefore for the more Exquisite and Honourable Study and Practice of these Arts, the young Physician, ought First, to be thoroughly learned in all the preceding Branches of the same, and that he might be the more absolutely accomplished*

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complished for it, he ought to revolve *Antiquity* ; to examine and scrutinize the various *Judgments* and *Observations* of the most *Eminent Physicians* , and daily read all the more approvable *Authors* extant.

XXX. Secondly, He ought to draw up the sum of his diffused Knowledge into a short and succinct Method, that he may not only know how to apply Precepts to his Practice ; but also be able to justify his Practice by the Precepts of the Art , and the Opinions of the Great Masters of the same ; not forgetting all this while , to make use of his own Judgment and Reason, in all his practical Conclusions.

XXXI. Thirdly , He ought to be knowing in all manner of Drugs , that he may not only tell what their Names are, but be judge of their Goodness, Virtues and Uses , and be able to make a choice of the best, if necessitated thereto.

XXXII. Fourthly , He ought also to spend some time, at least a year or two, with an Apothecary, that he may not only dispence the Composition of Medicines , but be versed in their Preparations and Mechanick mixtures, which though those things may at first seem below the Dignity of a Physician , yet this he is to understand, that he shall never be an able Artist without it.

XXXIII. Fifthly , He ought to live at least a year with some able Chymist, and go through an ample Course of Chymistry ; not that it is requisite for him to make and prepare every Medicine, which Chymists have taught in their Books ; but, that he ought actually to go through every kind of Process , and perform the operation with his own hand. And thus
by

The Preface.

by knowing how to make one Medicine of that kind, he will know how to make an hundred of the same; whereby he will conceive the Mystery, Nature and Reason of the Art, and from thence, as out of a Store-house, fetch the Preparation of any Medicament whatsoever, at pleasure.

XXXIV. Sixthly, He ought not only to read Anatomy constantly, but also frequently to see Dissections; and thence, partly by his Reading, partly from his own Observations, to draw up a kind of Anatomical Scheme, that the complete Idea of the whole Humane Frame, being constantly in his Mind, he may be the more able to contemplate Diseases, search out their hidden Causes, and to prepare fit and proper Medicaments for the Cure.

XXXV. Seventhly, He ought constantly in the Summer time to Herbarize, that he may at sight know the Herb and its kind, from the presence of which, the Virtues, Natures, and Qualities thereof will present themselves to his Mind, whereby the Power and Energie of the Art will (as it were) by degrees be implanted in his Soul.

XXXVI. Eighthly, He ought to spend two years at least with a Practical Chyrurgion, that he may see, and withal help to perform all the Manual Operations of Chyrurgery; and that if possible in an Hospital, where he will constantly see great Variety. Without this Knowledge, let him pretend what he will, and use all the Industry he can, he will be but an imperfect Master of his Art.

XXXVII. Ninthly, These things being done, before ever he adventures to give or prescribe any Medicament of his own, he ought to live two or three

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three years with some eminent Physician, and a man of Practice, where he is to visit the Patient, observe the Disease, and its Symptoms, scrutinize into the Cause, take notice of his Master's Prescriptions, and make Observations of the Effects of every Dose, how it wrought, and the Operation upon that Constitution; all which things he ought constantly to commit to writing, that by revolving the same he may (when he comes to practise) be able to do the like. Hitherto of the Method of Studying, and coming to the knowledge of the Art of Physick: it now only remains to give Directions to a young Physician, how he should manage the Practice thereof.

XXXVIII. As to the Practice of Physick, this is to be understood, that the Learned Physician uses not so much Levity, as to try all sorts of Medicines which Physicians have in their Books prescribed, nor often to change their Medicaments; he that shall do so, shall never know the true worth of any one, but be always to seek. Whereas if he be a man of good Judgment, and able to make a Choice, he may by his Diligence in Reading be able to draw out a select number of the most approvable, which may answer all the Operations and Intentions of Physick, and absolve the whole Practice of the same.

XXXIX. With the constant use of these he will get Credit, and in a short time be able to know truly, whatever they will do; whereas otherwise, he would never be able to judge or know the true Worth of a Medicament.

XL. But whereas things are best taught by Example,

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ample, We will here exhibit a Catalogue of such as we constantly make use of in our Practice, and have tried their Effects for more than twenty years last past. And these we always keep ready prepared by us, being in a manner the very substance of what we practise withal, except some few Arcana, which we are not yet willing to discover to the World: Their Compositions, Preparations, Virtues, Uses, and Doses, you may find at large in the Fifth Edition of Our Polygraphice, lately emitted to the World.

XLI. These Medicines are wholly salubrious, and beneficial to the Body, of a small price, and admirable against the Diseases specified. They will be of excellent use for all Travellers, Soldiers, Sea-men, and such like, who cannot attend upon a Cure, but are forced to go about their Business.

XLII. These things may be taken to Sea with them, where they will stand them in great stead, in all Sea-sicknesses, sickly Seasons, Agues, Scurvies, Poxes, Gouts, Poysons, Fluxes, Feavers, Calentures, and other Diseases, commonly attending, Armies, Camps, and such as go to Sea: By the use of these things, especially in Scurvies, Dropsies, Gouts, Rheumatisms, Agues, Feavers, Calentures, Fluxes, Worms, Intollerable Pains, &c. almost incredible Cures have been done. The like to this may any Physician do for himself, if this pleases him not.

XLIII. Lastly, In the following Catalogue we have given you the Value of each Medicine by the Ounce; all which are firm and durable, so that neither the Sea, Season of the Year, nor Age will

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will spoyl them, if they be kept close; and they may be all had (excepting the two last) faithfully prepared by the Author, at his House in London. To the Giver of every good thing and Fountain of Mercy, be given all Praise, Honour, Glory, and Thanksgiving; and to him (Reader) thou art commended by

*From my House at the Blew
Balcony, by the Ditch-
side, near Holborn-
Bridge. 10. January,
1681.*

Thy faithful Friend

and Servant,

WILLIAM SALMON.

Catalogus

Catalogus Medicamentorum.

| | <i>Price per Ounce.</i> | <i>l. s. d.</i> |
|----------------------------------|-------------------------|-----------------|
| 1. A qua Regulata | | 0 : 1 : 0 |
| 2. A qua Bezoartica | | 0 : 0 : 6 |
| 3. Catharticum Argenteum | | 0 : 5 : 0 |
| 4. Tinctura Corallorum | | 0 : 2 : 6 |
| 5. Tinctura Stomachica | | 0 : 2 : 0 |
| 6. Tinctura Bezoartica | | 0 : 0 : 6 |
| 7. Tinctura Hysterica | | 0 : 0 : 8 |
| 8. Tinctura Cathartica | | 0 : 0 : 6 |
| 9. Tinctura Antimonii | | 0 : 5 : 0 |
| 10. Guttæ Vitæ | | 0 : 2 : 6 |
| 11. Tinctura Martis | | 0 : 2 : 6 |
| 12. Spiritus Nitri Alcoholizatus | | 0 : 2 : 6 |
| 13. Spiritus Anodynus | | 0 : 1 : 0 |
| 14. Spiritus Aperiens | | 0 : 1 : 0 |
| 15. Spiritus Antiasthmaticus | | 0 : 2 : 0 |
| 16. Spiritus Cosmeticus | | 0 : 1 : 0 |
| 17. Potestates Cornu Cervi | | 0 : 2 : 6 |
| 18. Potestates Baccarum Juniperi | | 0 : 1 : 0 |
| 19. Potestates Carui | | 0 : 1 : 0 |
| 20. Potestates Caryophyllorum | | 0 : 2 : 0 |
| 21. Potestates Lavendulæ | | 0 : 1 : 0 |
| 22. Potestates Limonium | | 0 : 1 : 0 |
| 23. Potestates Mercurii | | 0 : 5 : 0 |
| 24. Potestates Pulegii | | 0 : 2 : 0 |
| 25. Potestates Rosmarini | | 0 : 1 : 6 |
| 26. Potestates Succini | | 0 : 1 : 0 |

Catalogus Medicamentorum.

| | <i>Price per ounce</i> | <i>l.</i> | <i>s.</i> | <i>d.</i> |
|---------------------------------|------------------------|-----------|-----------|-----------|
| 27. Potestates Terebinthinæ | | 0 | 0 | 6 |
| 28. Elixir Proprietatis | | 0 | 2 | 6 |
| 29. Oleum Sulphuris | | 0 | 1 | 6 |
| 30. Oleum Salis Tartari | | 0 | 0 | 8 |
| 31. Syrupus Elaterii | | 0 | 0 | 6 |
| 32. Tabulæ Emeticæ | | 0 | 2 | 6 |
| 33. Sal Mirabile | | 0 | 6 | 0 |
| 34. Sal Vitriolatum | | 0 | 1 | 6 |
| 35. Aurum Vitæ | | 2 | 10 | 0 |
| 36. Calomelanos | | 0 | 2 | 0 |
| 37. Arcanum Corallinum | | 0 | 6 | 0 |
| 38. Pulvis Regalis | | 0 | 5 | 0 |
| 39. Pulvis Antifebriciticus | | 0 | 2 | 6 |
| 40. Pulvis Bezoarticus | | 0 | 10 | 0 |
| 41. Hercules noster | | 0 | 8 | 0 |
| 42. Antidotus nostra | | 0 | 1 | 0 |
| 43. Theriaca Londinensis nostra | | 0 | 4 | 0 |
| 44. Laudanum Volatile nostrum | | 0 | 16 | 0 |
| 45. Extractum Pectorale | | 0 | 0 | 6 |
| 46. Balsamum Sulphuris nostrum | | 0 | 2 | 6 |
| 47. Balsamum Amicum nostrum | | 0 | 1 | 0 |
| 48. Balsamum Arthriticum | | 0 | 1 | 0 |
| 49. Balsamum Ophthalmicum | | 0 | 2 | 6 |
| 50. Pilulæ Panchymagogæ | | 0 | 8 | 0 |
| 51. Pilulæ familias nostræ | | 0 | 5 | 0 |
| 52. Balsamum de Chilli | | 0 | 1 | 6 |



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Adver-

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1. **T**Here is lately brought from *Chili*, a Province in *America*, a most Excellent Natural Balsam, differing both from that of *Peru* and *Tolu*, but no ways inferiour in Virtues and Excellency, as the several Experiments lately made of it by several Learned Physicians, in the curing of Diseases, has given evident Demonstration.

2. It is a Remedy that no man under the Sun can compose, being a Natural Balsam, distilling from a small Tree in *Chili*, bearing a Leaf something differing from an *Olive-Leaf*. It is, without doubt, the most precious of all Natural Balsams, by reason of its great Virtues, and admirable Odour, excelling all others, even the most fragrant.

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8. It heals all manner of Green Wounds, Rotten Ulcers, Fistula's, new or old running Sores in any Part of the Body; as also Punctures, or Hurts of the Nerves and Tendons, Aches, Pains, Lameness, Weakness of the Limbs or Joynts, being dropt into the Wound or Puncture, or otherwise applied thereupon, with a Tent, Lint, or Leather, &c. and so bound up, and not stirred in twenty four hours. It commonly cures at four or five times dressing, sometimes at two or three times, and sometimes at the first Dressing, though the Wound be very Deep, Contused, or Large.

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10. This Marvellous *Balsam* opens all Obstructions of the Liver and Spleen, being taken Morning and Evening for a Month together (as shall be directed, or in a little *Syrup*, or other convenient Vehicle:) It is held by the Natives for a great Treasure, and has many other singular Virtues, not here necessary to be named, lest we should prejudice its Worth and Excellency.

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Medicaments; but it ought to be constantly given, and in a due Dose, and with those advantages that it may not nauseate the Stomach: So taken, it performs more than any other Natural *Balsam*; it cleanses the whole Body of all Impurities, mundifies the whole Mass of Blood, heals all inward Bruises, Wounds, Ulcers, or Excoriations, whether in the Bowels, or Lungs; and otherwise restores decayed Nature to a Miracle, carrying off all its Fæculencies by Urine and Stool.

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WILLIAM SALMON.

A
 COMPLETE SYSTEM
 OF
 PHYSICK
 Theoretical and Practical.

BOOK I.
Containing the Diseases and Distempers of the HEAD.

CHAP. I.
Of the Pains of the Head, or Head-Ach.

§. I.

MAN, the noblest of all Creatures, and most divinely made, is, not without Reason; and very elegantly called the *Epitome* of the *Whole World*, and the *Microcosm*, or, the *Whole World in Little*; And as all other Things under the Sun; so particularly Diseases may be best

explained by contemplating Man, and the Curiousness and Nobleness of his Parts. And as those who take a View of a Country, first go to the *Metropolis*; and as Chap. I. in the Title signifies no more than the *first Head*; so may this serve to intimate to us that we should begin our Discourse with the *Head*, which is the principal Part of the *Microcosm*, or the *Metropolis* of the

B

Little

Little World. And as *Virgil* began with *Jove*; so we begin this Treatise of ours from the *Head*, which was anciently reckoned Sacred, and by which they used to Swear with the same veneration as by *Jove* himself. And besides this, if we consider the Violence and Extremity of the Disease we are now to treat of, and the frequent Visits it makes, we shall find Cause to begin with this cruel Monster first; For, as *Willis* says, there is no Part of the Body more obnoxious to Diseases and Pains than the *Head*; Insomuch that it passes for a common sign of the best Constitution in any, if it can be said of them, Their *Heads* never ake. Which Observation is back'd with this Reason; Because the *Head* is furnished with a great many nervous Parts, those Parts are more easily hurt. For the Nerves, the nervous Fibres, and Membranes; as, the two *Meninges* that environ the Brain, the Coats of the Nerves, the *Pericranium*, the *Periosteum*, the *Panniculus carnosus* of the Muscles, are all Parts of the greatest Sensation. Likewise in the Brain several Excrements are generated, which if they increase, and are not in due time discharged; it must needs follow, that those nervous Fibres must be irritated and vellicated by these disproportionate Particles of the Excrements, and so the *Head* be affected. Now as the *Head* has exterior and interior Parts; so in this Case we'll likewise follow the same Order of Nature, which is the best Teacher and Guide. For seeing this Pain in the *Head* is lodged in the *Meninges*, many excellent Authors, who are of the same Opinion, and follow the same Methods with us, usually treat of this Subject we are now upon, before any

other Distemper of the *Head*; under which they comprehend *Cephalalgia*, *Cephalea*, and *Hemicrania*.

§. 2.

Definition and Division.

BUT because a Definition is the principal Business, we will begin with that first; It is a painful Sensation in the *Head*, caused by the Dissolution of Continuity. The Division follows: That Pain is not uniform, but sometimes external, sometimes internal. If it is external, (when the Distemper has got no further than betwixt the Skin and the Flesh) then the Hair falls off the *Head* as Leaves from the Tree in Autumn; and the Pain is not so violent; Which never happens if the Pain be inward, for then it is much greater, because the Membranes that compass the Brain are very sensible. If it be an old Ach, return often, continue long, and seize the whole *Head*, or the greater Part of it, then it is called *Cephalea*; but if it is in one side only, then we call it an *Hemicrania*; If it come from some slight Occasion, as a Fever, or the Sun-Beams, or hard drinking, or some outward Cause, it is called a *Cephalalgia*, which amongst the Galenists is four fold, viz. *Pituitous*, *Bilious*, *Sanguineous*, and *Melancholic*; of which we shall speak hereafter.

§. 3. Part affected.

SOME take the Substance of the Brain for the Subject of this Disease, some the Ventracles, some the *Pericranium*, some few the *Periosteum*,

riosteum, others the Animal Spirits; and some, the Stomach; because when the *Meninges* of the Brain are out of Order, the Stomach also akes. But we reckon the *Subject* to be the nervous Parts of the Head; for they have the greatest Sensation; and hence it is, that Pains are felt by the Contraction and Twitching of those Fibres in which the Animal Spirits are lodged; for by how much the more acute those Particles are which lie in those Parts, by so much the more violent is the Pain; especially in the smallest Veins which consist of slender Filaments, and are therefore more easily puff'd up by the Spirits and kept stretched out, and are likewise apter to be moved and vellicated by the sharp Matter. We are induced to believe and declare with *Willis* and *Wedelius*, those two great Lights in Physick, that the Part affected is not the Substance of the Brain, because it has no sensitive Fibres; Which we know to be true by our own Experience; for we have seen an Instance of this in a Soldier, the Substance of whose Brain the Surgeon prob'd with his Instrument, and yet without the least pain to the Patient: When on the other Hand; if a Nerve or nervous Membrane be prick'd or wounded, great Pain or Spasmodic Motions arise. There is also this Reason, that purely by cutting a Nerve the Sense and Motion is taken away presently: Hence one may naturally conclude; that the Pain arises from these nervous Parts: when on the other Hand, there is less Pain in those Parts that are not nervous; tho they be full of Veins and Arteries, as one may see in the Lungs; Liver and Spleen; in

which there is but little Sense of Pain.

§. 4. Signs.

THE Signs are now to be considered. Some shew the Malady is just a coming, others that it is present. Much may be learnt by the Continuance or Intermision of the Disease, and the Hereditary Disposition of the Patient. It will also be of no small Moment to consider whether the Part be affected *primarily*, or *secondarily*, and by *Communication*. Now the proper Actions of the *Viscera* hurt, will shew what Communication there is between the Head and Part affected. Whither *Crato* l. 4. alludes, (whom yet we do not altogether follow) *Head-achs*, says he, *come through the Consent of the Stomach, and then usually the fore-Part of the Head akes; but when the Pain is from the Womb, then the hind-Part akes.*

The Pain in the Head is sometimes *pungent*, *tensive*, *stupifying*, *short* and sometimes *long*, according as the Excrements of the *Serum* and Blood are sulphureous, saline, sharp, or acid, and as the Force of those Humors upon the Brain is stronger, or more violent. This Pain, as we said before, is sometimes *tensive*, sometimes *fixt* and *piercing*, by reason of some salt Particles lodg'd in the nervous Fibres; sometimes it is *pulsative* or *thumping*, through the too vigorous Fermentation of the Blood rushing violently into the Head through the *Carotides*; sometimes it is *pungent* or *pricking*, because of some sharp Particles sticking in the Membranes. If it comes from too much Blood; it will be indicated by the Constitution, Age, Climate,

Climate, Spring Season, Way and Manner of living, &c. with such other things as usually increase the Blood. Sometimes this Pain is *Periodical*, so that some have it every day, and continuing for some hours. Others are afflicted once or twice in a month, some only in three months, six months, a year; of which 'tis needless to give any Examples.

§. 5. Cause.

NOW that we have done with the *Signs* we proceed to the *Cause*; which according to the Ancients consists sometimes in a *cold pituitous Matter*, from which comes a dull heavy Pain. When the Pain is violent and makes suddain Invasions, with manifest Signs of Heat, that, they, say proceeds from *Choler*. They also accuse the sanguineous adust Humors and Vapors flying up to the Head (believe them, who will for me) of causing this violent Pain.

§. 6.

THE Paracelsists sometimes reckon the Cause to be *some Accidental Digestion of the Blood*; sometimes the *Resolution of Tartar in the Stomach*, and sometimes *Obstruction*.

§. 7.

THE famous Cachenius, according to his own Principles, endeavors to explain the Causes of this Disease by the two Salts *Acids* and *Alkali's*, thinking that it happens either when too much *Alkali* is got into the Blood and makes it ferment; or too much *Acid* and thereby makes it coagulate.

§. 8.

HELMONT with great Confidence imputes the Cause to the Stomach and Spleen; for it happens, says he, that something of the Nature of Spirit of Wine in the Artery of the Stomach, mixing it self with the Spermatie Nourishment of the Artery, does in process of time cause incurable *Vertigo's* and Head-achs.

§. 9.

BUT Willis is of another Opinion, thinking that the Pain of the Head does arise any where about the nervous Parts of the Head, and that the true Reason is, because the Animal Spirits being upon the least occasion separated and dispersed, they thereby make the containing Bodies to be corrugated and drawn together, and so cause a Pain. And adds further, that some disproportionate Particles rushing in amongst the Animal Spirits, or their Vessels thereby get into the Pores of the Fibres, and put the Animal Spirits into Confusion. And for this Reason he divides this Pain in the Head into *Accidental* or *Occasional*, and *Habitual*. The *Occasional* very easily arises from excessive drinking, gormondising, basking in the Sun, and too much Exercise.

And he says, this Head-ach usually happens in Fevers, because the Blood by too much fermenting, swells and dilates the Membranes which it passes through. Nor does he excuse the *Serum* and Vapors, because they may get into the Membranes, and after that, twitch and irritate the nervous Fibres.

But

But the *Habitual* Pain in the Head, which is continually troublesome, he calls a weak Constitution of the Part affected, whereupon the morbid matter becomes more readily and easily accumulated. To this he refers an Hereditary *Head-Ach*, which is propagated from the Parents, and imputes it to the bad Conformation of the Integuments of the Head and Brain, which being thicker than they ought to be, and thereby unfit for the Humors and Vapors to pass through; those vitious Humors do either blow up or vellicate the *Meninges*, *Pericranium* and other sensible Parts, and so cause this great Pain. This worthy Author takes the *Morbific Matter* to be either the *Blood* or *Serum*, or the Nutritious or Nervous juice; that is, according as the Humors degenerating from their right *Crisis*, become tainted with sulphureous, saline, sharp, acid, or bilious Feculencies, they twitch the nervous Fibres, and so cause either a fixt, piercing, beating, pricking, heavy, short or longer Pain.

§. 10.

Sylvius who makes the Cause, as others do, the *Dissolution of Continuity*, says it comes from a sharp Humor or Vapor twitching the nervous Fibres, whether it be the Pancreatick Juice, or Choler, or Vapors compos'd of both these Humors; or it be *Serum* or *Blood*, all which are naturally apt to cause this Pain.

§. 11.

Let us now hear what *Cartes* says, who seeks for the Cause of this Malady after his usual man-

ner, in Particles of disproportionate Figures which deprave the *Crisis* of the Blood, blaming the violent motion of the sharp Spirits and thin arterious Blood which is too bilious and viscous, or whilst these sharp Spirits are driven through the Arteries to the Head, they twitch, gnaw, rend and prick the Filaments and Coats, or *Meninges* of the Brain, and so hurt the Pores which they would break through, that are not of the same Figure and Magnitude with them, and by making Breaches do at last dissolve the *Continuum*; from whence Head-Achs do necessarily come, all Pain according to the *Cartesians* arising from Obstruction. The Result of all which is this, That the Acrimony, Saltness and Sharpness of any Humor is able of it self to bring this Pain, always supposing a subtile Matter; that is, the pricking Pain arises from Salt, the cutting from an Acid, the dozing from an insipid Flegm, the distending from Vapors, the beating from pricking Particles that are extravasated upon the Artery.

§. 12.

BUt now to cast in my own Mite; I think with others that the immediate Cause of this sad Pain is the *Solution of Continuity*, and the mediate Cause I take to be some salt, sharp, austere, or sulphureous Particles in the mass of Blood and Animal Spirits, which carried, beyond their Sphere, to the nervous or membranous Parts, by their pinching and twitching cause this violent Pain. But it seems to me very immaterial by what Names you call this peccant Matter (for the Controverſie lies more in them

than in the thing it self) viz. whether you call it the Recrements, or bilious Particles, or acute, or sulphureous, oily, tenacious, or very volatile, or saline, &c. For it is certain that the Animal Spirits being parted from one another by these, cause the contiguous Bodies to be constringed and pinched together, which occasions a certain unpleasant sensation. For these sharp, salt, sulphureous and acid Particles, from whence soever they come either corrode, or being lodg'd deeper and deeper in the Fibres rend them with their sharp Spikes and make a Division: As it sometimes happens in Fevers, that through the too quick Motion of Blood, however occasion'd, and running violently into the *Meninges* or Fibres, which know not how to give way, this dolorous Sensation presently arises. In like manner sometimes the Blood is a Hindrance to it self, when it is heaped together in a great quantity, and being driven on by other Blood that follows it, forces its Passage, through little holes and fissures (by Dividing, breaking, or opening the Mouths of the Vessels) into the neighbouring Parts; which is so ancient a Truth that *Hippocrates* takes notice of it, when he says that Bleeding at the Nose cures the most violent Pain in the Head. So that there are many Causes of this Distemper, according to that common Axiom in Logick, The same Effect may proceed from divers Causes. We read in our German *Ephemerides*, An. 1. Obs. 69. that there were found eight Ounces of yellow Serum in the fore-Ventricles of the Brain of one that was troubled with a heavy Pain in his Fore-head. So the Excellent *de Graaf*

in the same *Ephemerides* says, he found a great Quantity of clear Water, under the *Pia Meninx*, and the *Carotides* grown hard, of one that died of such a Distemper. It is also plain from the same *Ephemer.* An. 10. Obs. 50. that Worms may cause this Pain. As to the *Hemicrania*, I am of Opinion, that the sharp and vitious Particles are carried with the Blood through the *Carotides* and jugular Arteries to the *Cerebellum*, by reason of a violent Turgescency preceeding. Now seeing those Arteries are divided into two Branches, and that there is sometimes an easier Passage through one than the other, wherever the Way is most open, thither the peccant Matter rushes with great Force. Nor do I at all doubt but that where the oily and sharp Particles predominate, whether they be lodged in the *Hypochondria*, or be there precipitated, or lie in any other *Viscera*, if too great a Fermentation or Deflagration arise, they are hurried to the Membranes of the Head, and if they find minute, strait, unproportionate Pores and Pipes which they cannot enter, they try to force a Passage and thereby cause a Pain. It is most usually about the back Part of the Head, because there are the most Arteries, and consequently the greatest Discharge of the peccant Humors. It usually reaches to the Neck, because the Matter extravasated in the hind-Part of the Head, falls down by its own Gravity to the Spinal Marrow through the fourth Ventricle of the Brain. And it is remitting, because all the Blood is not disposed alike, so that sometimes it comes sharp, anon it leaves off again. Thus much of the several Causes of the Head-Ach, any
of

of which whoever shall take upon him to dispute will find a difficult Task, as the famous *Willis* towards the Beginning of the first Chapter of his Book of the Head-Ach doth acknowledge; where he says, that the Causes of this Disease are so abstruse and intricate, that it is no easie Matter to attain to its true *Diagnosis* and Cure. No less Difficulty attends the *Prognosis* which we are now about to inspect.

§. 13. *Prognostick.*

AN old and inveterate Ach, that comes (as many think) from some cold Matter, is very hard to be cured, and especially in old Men. A constant excruciating Pain, and which takes away Rest is very dangerous and formidable. If it be without Intermission, and Periodical, and very violent, and is accompanied with a *Vertigo* and other Distempers; then it threatens with Deafness, Blindness, Phrensy, Epilepsy, Apoplexy, Palsy, Spasms, &c. If the Distension of the Nerves be a Concomitant of this Distemper, it is a Sign of very great Danger. In like manner, when it is accompanied with the Pox or Hypochondriacal Passion and often affects the Patient, it is very hard to be cured, if not altogether incurable. And there's but little Hope when the Pain comes from bilious *Serum* extravasated near the *Meninges*, or from an Irruption of Blood, which is commonly call'd an *Apostem*. Or, when it comes from a bony Hardness of the Carotid Arteries, as *Regnerus de Graaf* observed: as also that which is caused by Worms, which yet our German *Ephemerides* say has been cured by driving the Animal out through the Ear. And

that is incurable also which comes from little Stones that are bred in the Brain near the *Meninges*, as appears by the foresaid *Ephemerides* An. 8. Obs. 48. Whoever being well are suddainly seiz'd with Pain in the Head, and become forthwith dumb, and rattle, they die within seven Days except a Fever follow, as *Hippocrates* says l. 6. Aph. 51. When the Head is pain'd in some Part, or all about, and Pus, Water or Blood issues out at the Nostrils, mouth or Ears, it is a Sign the worst is over, as *Hippocrates* again witnesseth S. 6. Aph. 10. If the Summer be dry and have frequent North Winds, and the Autumn be rainy and have a South-Wind, then the Head-Ach afflicts in the Winter, as our foresaid experienc'd *Hippocrates* l. 3. Aph. 13. again tells us. When the Head-Ach does not begin the Disease, it is a certain Sign of a future *Crisis* by Vomit or Bleeding at the Nose, and that no Cure should be attempted, lest the Bleeding be hindred, which is a Benefit of Nature, and will either Cure, or at least (as Mariners to save the Ship throw the Goods overboard in a Storm) will give Ease to the Disease. That Head-Ach is easily cured which proceeds from Eating, Drinking, Lying in the Sun, immoderate Exercise, and that which is not too deep rooted and become habitual. If much watry Humor be extravasated into the Brain, and also become corrosive, it usually causes a Head-Ach which proves mortal.

The Pain in the Head, in an acute Fever, with thin white Urin, is dangerous; for it is an Argument (as is vulgarly held) of vitious Matter hurried up to those

sensible Parts, the *Meninges* of the Brain. When the Urin of those that are feverish is muddy, like that of Cattle, they either have the Head-Ach, or it is nigh at hand, as *Hippocrates* says *l. 4. Aph. 70.* If this Pain come from Choler or volatile Salt, the Patient is in Danger of a Phrensy; if from Melancholy, to run mad; if from a watry Humor or Blood, to fall into an Apoplexy.

§. 14. *Dietetic Cure.*

From what has been said of the *Causes*, it will be easie for any Man to know how the Body is to be order'd in Respect of the *Six Non-Naturals*; for that which increases the *Causes* is above all things to be avoided.

Therefore in the first place, Let the *Air* be temperate, thin and pure either by Art, or Change of Climate; but avoid a cold Air, for it hurts the Brain, neither must it be too hot; but always observe a *Medium*, for all suddain Changes are dangerous. It is very bad to lie down or walk bare-head in the Night-Time and moon-shine.

Let the *Meat* be of good Nourishment and of easie Concoction, as Wild-Fowl, Pullets, Capons, Veal, &c. Roast-meat is better for some Constitutions than boil'd; Poach'd Eggs, Water-Gruel, and Barley Broth are good. We advise the Patient by all means to forbear sharp, salt things, for they are naught for the Nerves; also Meats dryed in the Sroak, and those that are windy; all Garden Fruit, as Pot-Herbs, Radishes, Smal-lage, Mustard, Garlick, and whatever else is commonly found to be

prejudicial to the Brain: Amongst which Milk-meats may be reckon'd, for *Hippocrates* long since forbid giving of Milk to those that were troubled with the Head-Ach.

Let the *Drink* be Small Wine, and that but little; however a Draught mixt with Cephalicks may sometimes be allowed. When it proceeds from a hot Cause, then Iron Waters, as of the *Spaw*, &c. are good, because they allay the Heat of the decolatory Instruments of the Blood, and wash off the Re-crements, and also do temper the rough excrementitious tartareo-nitro-sulphureous Salts, and expel 'em by Urin.

Woods of Saffaphras and *Gnaja-cum*, and Peony Roots do very well in Diet Drink. And caution must be us'd that no Darnel be boil'd in the Patients Beer.

Let the *Motion* and *Exercise* be moderate, for too great Exercise, through which the thin and hotter Particles of the Blood are drawn from the inward to the outward Parts, deprives the *Viscera* of their natural Ferment, and fills all the Parts of the Body with several Crudities; so that the Brain and *Genus Nervosum* are supplied with a vitious Juice, by which means those sensible Parts are easily vellicated.

Let the *Sleeping* and *Watching* be moderate, and let the Sick Person sleep with his Head high and cover'd; and not lie down under a Walnut-Tree, for that will cause a Head-Ach.

Lastly, the *Excreta* and *Retenta*, as Suppression of Critical Sweats, Sneezings stop't, immoderate Vener-y, the stoppage or too much flowing of the Terms, the *Lochia* or Purgation after Child-Birth, and the Hemorrhoids (which disturb the

the natural Heat and hinder Concoction, stock the mass of Blood with several unagreeable Particles, and are occasion of several Diseases and Symptoms) sometimes are the Cause of this Disease, and therefore are to be avoided.

Amongst the *Passions of the Mind* are reckon'd Anger, Frigh, and the like; being such as enrage the Animal Spirits, and offend the Nerves, which easily cause a Head-Ach, and an irregular Heat in the Blood. And this is the Reason that in such Passions we may feel and see the Arteries of the Temples beat.

§. 15. *Pharmaceutic Cure.*

WE now proceed to the *Pharmaceutic Part*. The *Antients*, and after them the *Moderns*, cure this Disease with the following Medicines, still observing this Distinction, that a cold Head-Ach comes from a cold Phlegm, a hot one from Choler, a sanguineous from the Blood, and a Melancholic one from an adust Humor; which Method we will describe though we do not approve of it, beginning first with *Preparers*, which they place in the first Rank, because they are of Opinion that the Morbifick Matter should be concocted several Days before it can be eradicated, which they do by these following Medicaments, *viz.* Syrup of Hyssop, of *Acorus* Roots, of Betony, of French Lavender; Oxy-mel of Squills, Betony, Marjoram, Sage; Decoction of *Guajacum*, with the other Cephalicks. If it come from a hotter Cause they make use of Syrup of Roses, of the two Roots, of the white water Lily, and of red Poppies. After these

they use Purgatives which they give the Patient two or three times, because, say they, the Humors being gradually concocted by Purgings, may the better yield to Medicaments; for neither gross nor thin Humors are carried off so well by a quick Purge, and therefore they rather chule Pills than Electuaries, judging them to be better for drawing the Humors from distant Parts. Their usual Pills are these, Pills of Agarick, *Aleophrangina*, *Cochia*, *Arabica*, and *fetida*. Amongst the Electuaries, the *Indum*, *Diacatholicum*, *biera*; Troches of Agarick, Turbith.

They mix *Purgings Potions*, as Decoctions of Senna, with Roots of *Acorus*, Leaves of Betony, Rosemary, and other Cephalicks. To the same purpose they commend Clysters of a Decoction of Betony, Marjoram, Flowers of Melilot, adding Honey of Roses and Salt. If the Body be plethorick they allow Bleeding, else, in gross, slimy and very cold Humors they do, not without Cause, forbid it. If the Pain be in the hind-Part of the Head they bleed the fore-head Vein, if it be in other Parts they as ridiculously choose another Vein.

Now we come to their *Revolvers*, which are, Clysters, washing the Thighs and Feet with warm Water, Horse-Leeches applied to the most turgent Veins about the place aggrieved; also Blood-letting, strong Suppositories, Ligatures; as also hard Rubbings, Fomentations, Sneezers, Errhines, Apophlegmatisms and Gargarisms, all which in their Opinion do revel. Afterwards they give such Medicaments as corroborate and amend the Intemperature that is left behind, which are to be given upon an empty

ty Stomach and Fasting, or else the Vapors, say they, will fly up from the lower Parts : And they are these, *Diacuminum*, Treacle, Mithridate given, in Betony water, *Diacorum*, *Aromaticum Rosatum*, *Diamuscum* sweet and bitter, Conserve of Marjoram, Rosemary Flowers, Betony, &c. A Decoction of *Gua-jacum*, with the Flowers of *Cardus Benedictus* they hold to be very available both in a *Cephalaea*, and *Hemicrania*. Cubebs, Musk, Amber and Cinnamon are only to be given to the Masculine Sex. They commend washing of the Head in Ley which has had Leaves of Betony and Marjoram, and Chamomil Flowers infused in it : And likewise Bathing the Head in a Decoction of Laurel Leaves, Betony and Marjoram Flowers, &c. They say it has been often found that hot Baths have wonderfully relieved the Head-Ach. Telling us also in their Writings that a Pomander made of Cinnamon, Cloves, *Stæchas*, Leaves of Bay Tree, Marjoram has sometimes given ease. It is usual with them to apply a Cerecloth of *Euphorbium* in old Head-Achs ; but it will take up too much Time to enumerate all the Medicaments they make use of in this Distemper. To be brief ; They first of all give a Clyster, after which if the Matter be slimy and tough they use Incisers or Preparers. Afterward they carry off the Humors, and hinder their coming to the Head. If there be a *Plethora* they let Blood ; after which they strengthen the Head, and purge away the Remainder of the Humour ; nor do they neglect Topicks, because the stronger the Disease is, the stronger Remedies they apply. Amongst other things they fly to their Actual and Poten-

tial Cauteries, as their last but cruel Refuge. If the Pain comes by basking in the Sun, they make a Composition of Oil of Roses and Vinegar, and also Rose-water, in which they dip a linen Rag and apply it to the Head. And a thousand other Ointments, Oils, Emplaisters, Cataplasms, quilted Bags hath doting Antiquity long ago invented. In removing an inveterate *Cephalaea* they audaciously burn the Veins of the Temples, as *Mercurialis* l. 3. c. 10. doth testify.

§. 16.

THE Paracelsists have been something more successful in curing this Distemper : When it comes from too much Blood they cut a Vein, as *Paracelsus* their Master advises. Sometimes they open the fore-head Vein. He also says that the Head-Ach is cured by cold Things and Narcoticks, moist Things either external or internal, as Liquors of Coral, Roses, House-Leek, Pearls, Darnel, &c. Giving this Reason ; For that the volatil and raging Spirits exagitating the Blood, are quieted and as it were fettered by the strength of Narcoticks. He also commends Oil of Camphore to six Drops, with as many of Oil of Musk to be drunk in Ale, or any other convenient Liquor.

The Medicines of other *Reform'd Chymists* (as I may call them) are, Oil of Antimony with its Alkahest (or volatil Salt.) They reckon a great Vertue to be in Oil of *Gua-jacum* in strong and inveterate Head-Achs. Some Drops of the Oil of Amber taken inwardly every Day, and applied outwardly, especially

cially to the Crown of the Head, do wonderfully, according to them, strengthen the Brain, and dissipate the Pain. Oil of Rosemary Flowers, Fennel, Hyssop, Marjoram, especially when 'tis put into the Nostrils, has the same Effect. They have found that some Drops of the rectified Oil of *Olibanum*, taken in the Morning in a proper Vehicle, are very good. But to set down all the Medicaments us'd by Chymists in this Distemper would be too tedious.

§. 17.

Helmont, famous for the Cure of this Pain, says, that it is sometimes cured by Eating, fetching his Medicines not out of an Apothecarie's Shop, but out of a Pantry; but yet uses the same Method in its Cure, as he does in other Cephalic Distempers.

§. 18.

The excellent *Willis* aims principally at these two things in curing of this Distemper. 1. To take away the Matter of the Disease. 2. To root out and quite remove the Conjunct or Complicated Cause. He judges the Morbific Matter to consist in acid, salt, sulphureous and other Recrements, of the Blood, *Serum* and nervous Juice, which are carried to the Head, for the most Part, by the Blood. He ascribes the Causes to Vapors and *Effluvia's* getting out of the *Viscera* into the Blood. All which he thus rectifies: 1. That the Disorders of the Blood may be removed and prevented, he advises the Patient to bleed thrice, either in the Arm, or Jugular Vein;

as also to apply to the Head *Oxyrrhodina's* and Epitherns; and to take such Juleps, Emulsions or Decoctions as cool the Blood, and that the Body must be kept laxative. The better to fix and cool the Blood, he prescribes destilled Waters, Decoctions, Eleatuaries, Powders, and especially makes use of Mineral Crystal. If this Pain proceed from a serous Matter, he endeavours by Clysters to stop the Fluxion of that vicious Humour; and afterwards to soak up that which is extravasated, he orders Blood-letting, especially in hotter Constitutions. But in cold Tempers he generally uses Vesicatories near the Ears, or applied to the Crown of the Head. And then, to free the Body from superfluous Serosities, gentle Catharticks, Diureticks and Diaphoreticks he reckons very proper, the Forms of all which are to be found in the Author. But the choicest, and which he generally prescribes are these: A Decoction of dry'd Leaves, sometimes of a Willow, sometimes of Betony, Vervain, Rosemary boiled in Spring-Water; and he mightily cries up the Vertue of the Liquor we call *Coffee*, to be drank twice a Day to the Quantity of six Ounces.

When it seems to proceed from the *Viscera*, he usually gives Medicaments appropriated to those Parts; as, if it comes from the Stomach, then he orders Stomachicks, as the *Elixir Proprietatis* of *Paracelsus*, and of *Helmont*, Vitriol of *Mynsicht*, Stomach Powder of *Binkman*, &c. If it comes from the Spleen, he gives, with great Success, Chalybeats; if from the Womb Hystericks mixt with Cephalicks. When it remains after Meazles, Small Pox, Fevers or

or Agues, and when the Blood grows vappid, and contracts a Scorbutick Dyscrasy; then he commends Antiscorbuticks and Chalybeats, first giving a gentle Purge.

In an universal Head-Ach, he says, all Cephalick Medicines which corroborate the Animal Spirits, and help all the sensitive and motive Organs in Man, are very good: as, the Tincture of Coral to twenty Drops, of Antimony, and of *Sal Armoniac.* impregnated with Amber and Coral, and Spirit of Harts-Horn with Amber to be drunk in a proper Vehicle. Nor is the use of *Millepedes* to be neglected, the expressed Juice, distilled Water and Powder of which are of singular Advantage. He usually also prescribes strengthening Plaisters; as also to apply Sinapisms and Vesicatories. He says, that Embrocation and Bathing the Head in cold Water often does Good, which the most Serene *Charles Lewis*, Elector Palatine, now dead, very successfully used. Our Author also prescribes a great deal to Salivation, Arteriotomy, and to other Things which it will not be to our Purpose more accurately to relate.

§. 19.

NOW will we see what *Sylvius* says, who to mitigate the sharp Humor and Vapor (as being the Cause of the Pain) makes use of Lenients, Demulcents and tempering Medicaments, especially the last, in Fevers, where the sharpness of the Choler abounds, adding also Anodynes and Narcotics. To take away the pain, and the beating and watchings, he orders the following Composition.

Take Water-Plantain, Lettuce, Sorrel, of each an Ounce, of Cinnamon-water half an Ounce, of the sweet Spirit of Salt half a Drachm, Syrup of *Diacodium* one Ounce. Mix them.

Amongst External Epithems or Liniments, he persuades to use the following. And first this Epithem.

Take of Water of Betony two Ounces, Rose-water one Ounce, vinegar of Marigolds two Drachms, *Opium* of *Thebes* half a Scruple. Mix them.

Then this Lenitive Unguent,

Take of Ointment of Poplar Buds two Drachms, *Theban Opium* half a Scruple, Oil of boil'd Roses half a Drachm; Anoint the Temples therewith.

§. 20.

WE are now to see what *Cartes* and his Followers say, who seem to be of our Opinion. Our Way of curing this Pain is thus. First, in a bilious Head-Ach, or when many sharp, oily Particles, rude Salts or Salino-sulphureous Recrements abound, as in Fevers, and other Distempers, which, no Doubt, are the occasion of the Solution of Unity, and of the sad Pain that follows; we order Blood-letting, and other Things which alter and correct the Intemperature of the Blood, and which dispossess those Nitro-sulphureous Particles which are lodged in the sensible Membranes. All Purgatives do not answer the same Intent, but some are

are fittest to carry off these, some other Particles, which Diversity is not to be ascrib'd to an Occult Quality, but to the differing Constitution. So, if the Blood abound with Choler or Sulphureous Particles, they being very volatil, do easily yield to any Purgers. But pituitous, viscid and tough Humors, being not so easily moved, and (as I may say) having once taken up their Lodging in the Blood, require stronger Remedies. In a bilious Head-Ach this following Medicine is proper.

Take Water of Endive & Succory, as much of each as is sufficient, of yellow Rhubarb two Drachms, Salt of Tartar one Ounce. Mix them for a Purge.

This must be done first. In the second Place, the Heat and Sharpness of the Blood which is occasion'd by those sulphureous rude Particles is best tempered by watry Things; for the more Water there is, the lesser Acrimony is there found. To this End Acids are proper which correct this bilious Intemperature by precipitating the sharp Salts, for which the following Form may be prescribed.

Take of Water of Betony two Ounces, Water of Succory, Endive, and Wood-Sorrel of each three Ounces, Syrup of Rasp-Berries & Barberries of each an Ounce, Spirit of Vitriol as much as is sufficient to give it a grateful Acidity.

When Sleep is banished by these sharp, excrementitious Particles, which prick the Blood & *Meninges* of the Brain, it is best reduced by oily

Emulsions, which at the same time stop the too quick Motion of the Animal Spirits and of the Blood. *E.g.*

Take of the four greater cold Seeds husk'd of each half a Drachm, Seeds of White Poppy three Drachms, with Water of the Flowers of Betony, of the Lime Tree, and of Water Lilies as much of each as is sufficient, make an Emulsion and sweeten it with Sugar.

A Scorbutick and most stubborn Head-Ach is not removed but by Antiscorbuticks mixt with appropriate Medicines, because of its extraordinary saltness and sharpness. *E.g.*

Take Water of Vervain, Brooklime, Marsh Trefoil of each three Ounces, of the Phlegm of Vitriol two Ounces, Tincture of Roses two Drachms, Syrup of Pearls two Ounces. Mix them.

Thus much of the *Bilious*, now we come to speak of the *Pituitous* Head-Ach, which hath not such a sharp, vitious Matter, but a thick gross and tough Blood, and therefore must needs occasion a heavy burthensom Pain. This Grossness of the Blood must likewise cause a Stupidity of Mind, and produce not lucid, but thick and gross Animal Spirits, which will be fewer and feebler, and all the Motions will be slower. The Stomach too will be out of order, as I found by my Self when I had a Pain in my Head; which Consent between the Head and Stomach I observ'd in a Country-Fellow, who being hurt in his Brain complained more of his Stomach than his Head. And the Reason

son is this; Because the Animal Spirits being put to Flight, and not flowing in due Quantity into the Stomach, its Tone must necessarily be vitiated. Besides, they that are Sick of this Distemper have a perpetual Inclination to Sleep; for the Pores of the Brain being fill'd with a pituitous and viscous Humor, the Animal Spirits are not able to keep them open. Therefore the obstructed Tubes of the Brain and *Meninges*, caused, no doubt, by that gross and pituitous Matter, must first be opened, and then the Humor is to be evacuated. In which Case you may with good Success use both Internal and External Medicines. But that they may come securely to the Place affected (*i. e.*) the Pores of the Brain, it is requisite they should have such stiff Parts as cannot by other Particles crossing them in their Way be easily biased or put out of their Road thither. Such as these common Woods, *Guajacum*, *Sassafras*, *China Root*, *Sarsaparilla*; Barks of *Tamarisk*, *Ash*, &c. which can, by their powerful Force and Stiffness, break through, cut, attenuate, and make flexible the rigid Particles; so that the rest of the Particles being subjugated, may run back again, and at last be quite cast out of the Body. For which Purpose we commend the Decoctions of the forementioned Woods in all the cold, tough and watry Distempers of this Nature. Here follow two Wines medicated with the Ingredients of these Decoctions.

Take of Betony, *Carduus benedictus*, Marjoram, Sage and Rosemary of each a Handful, Flowers of Rosemary and Lavender of each a Pugil, Woods of *Guajacum*, and

Sassafras of each an Ounce, Anniseeds two Drachms, Cream of Tartar half an Ounce. Mix them. Let them be put in a Bag, upon which pour a Quart of Rhenish Wine.

Very like to this, is this Excellent Receipt of the famous *Wedelius*.

Take of the Roots of Peony one Ounce, of Elecampane half an Ounce, Leaves of Betony, Bawm, Sage and Rosemary of each one handful, Flowers of Wall-Flower, Lily of the Valley and Rosemary of each two Pugils, Primrose Flowers one Pugil, of French Lavender two Drachms, Wood of Aloes or of Mistletoe of the Oak one Drachm, of Cinnamon a Drachm and a half. Sow 'em in a Bag, and boyl them in Wine.

The Enemy being thus disarm'd and fetter'd, may be quite destroy'd by the following Purge.

Take of *Extractum Phlegmagogum* half a Drachm, Resin of Jalap eight or ten Grains, Tartar vitriolated seven Grains, volatile Salt of Amber three Grains, Oil of Marjoram and Amber of each one Grain. Mix them, and make thirteen Pills. Or, Take Resin of Jalap and Scammony of each six Grains, of volatile Salt of Amber three Grains; Gums of *Gambanum* and Ammoniack of each half a Drachm, Oil of Myrrh three Grains. Mix them. Make Pills for one Dose.

The Cephalick Pills of *Crantz* (which are the *Extractum Panchymagogum*) are in these Cases usual Infusions.

Infusions of the Leaves of Senna with Agarick, and some resolving *Alkali* added, are not to be despised. After that altering volatil Salts and aromack Cephalicks close up all. From whatever Cause the Disease arises, but especially if from the Obstruction of the Vessels and Pores of the Brain, all Aromatics and such Things as consist of a Volatil Salt, as being Nervine, are very available; for by their sweet and gentle Blandishments they cherish the sensible Parts, and thereby assuage the Pain. Such as are the Volatil Salt of Amber, and its Tincture, the Spirit of Harts-Horn with Amber, the Nervine Balsam of *Schefer*, our Volatil Cephalick Salt, our Tincture of Antimony (or, in stead of them other Cephalick Salts, Tinctures, &c.) Cinnabarines are not to be forgot, nor the Infusion of *Cheba*, which we approve of as very good. In a lasting, periodical Head-Ach the Medicines are often to be changed, which one must be careful in, for, the Causes are sometimes very obscure, which however by rightly weighing and considering of Circumstances may be pretty well guess'd at. When all is done, we must be very careful to prevent the begetting anew of those Sulphureous or viscid Recrements, or vitious Blood; for if they be regenerated, they prove more mischievous, and breed greater Confusion than at the first. Therefore we must be sure to stop all preternatural Fermentations in the Ventricle or Heart. In all Head-Achs, both simple and malign, the Juice of Crabs drawn together with the Juice of *Vervain* excels all others in Goodness.

There is likewise an excellent Remedy prepared of Hungarian Vi-

triol, which must first be dissolved in clear Water, then decanted and evaporated to half, and so put in a Cellar to Crystallize; which Crystals, being prepared of Vitriol, have something of the Nature of Salt, and therefore do cut. But because they have many Particles of Copper amongst them, they do gently bind, and so do, in some manner, shut up and straiten the Pores of the Arteries that are too open. Let half a Drachm of these Crystals be took Morning and Evening upon an empty Stomach. Camphore and its Oil are good in this Distemper.

In Venereal and Scorbutick Pains which are usually most violent in the Night-Time, besides the forementioned, the following Medicaments are proper.

Take Spirit of *Guajacum* tartarized, Sassafras of each one Drachm, Tincture of Antimony 1 Drachm, *Antimonium diaphoreticum* twenty Grains, Decoction of Sassafras two Ounces. Mix them, and give it at several Times.

To Women troubled with the same Distemper, and also subject to Hysterick Fits give this which follows.

Take of *Elixir Proprietatis* of *Paracelsus* two Drachms, Spirit of *Sal Armoniac.* with Amber, Scurvy-Grass of each one Drachm, Tincture of Castor, Amber of each one Drachm. Mix them. Let the Dose be from half a Drachm to a Drachm in a proper Vehicle.

If the Distemper comes from Weakness of Stomach, then Stomachicals,

chicals, as the Stomach Powder of *Birkman*, Pepper Corns swallowed are convenient.

If it proceeds from Drunkenness, viz. from Wine, or that Volatil Acid become furious, Volatil Salts of Harts-Horn, &c. are very proper. Ivy-Leaves, Colewort and Rue applied to the Wrists, cure this Pain. If it comes from Extravasation of the Serum, commonly called Defluxions, *Crato's* Pills of Amber are very good.

So likewise the Cephalick Spirit of Vitriol, given in a Julep or Spring-Water to twenty Drops or more, does powerfully subdue this vitious Volatil. Emulsions also do the same, for all oily things do correct & amend this intoxicating Acid. Externally, Leaves of Vervain, Ivy, Cabbage and Rue, applied to the Wrist and Head are very good. But of all Remedies the most Sovereign in any sort of Head-Ach, are Mineral Waters, to which the affected fly as to their last Refuge. Many also, in the Spring, drink Juice of the Birch Tree with Success. Errhines, Masticatories and all anti-Epilepticks are here available.

§. 20.

THus far of *Internal*, now we come to *External* Medicaments, with which sometimes, especially in weak Constitutions, we ought to bridle the Fury of this Distemper. All Aromaticks also in this Case are proper, which may pass through the Pores of the Head, and so remove the Obstruction which is made in the Vessels of the Brain. Such as the Spirit of Harts-Horn. But for the sake of young Practitioners we will set down some Forms.

Take Water of Betony and Marjoram of each three Ounces, Cephalick Spirit half an Ounce, Harts-Horn one Drachm and a half. Mix them. Let Linen Cloths dipt in this be laid to the Head.

In a hotter Case the following Medicines are proper.

Take Water of Vervain, Endive and Lettice of each two Ounces, Phlegm of Vitriol half an Ounce. Mix them. Or, Take Flowers of the Peach Tree, Elder, Vervain, Poley of the Mountain of each one Ounce, *Sal Prunella* one Drachm. Mix them. Or, Take Water of Dill, Roses and Penny-Royal of each one Ounce, Vinegar of Roses one Ounce, *Opium* dissolved in Vinegar half a Drachm, Camphore two Grains. Mix them, and make an Epithem.

This following Medicine though common and easie, yet is very efficacious.

Take of the Crum of white Bread, Juniper Berries pickled, of each alike what is sufficient. Or, a Bag may be made of Millet, Salt, Vervain and *Lignum Rhodium*.

But seeing we have found that these Epithems have often done Hurt, we must learn to be more cautious, for if the Pores be shut, the sharp Particles cannot have a Passage out; from whence one may conclude that those things are more Proper which are applied in a dry Form, such as are *Cucuphe*, or odoriferous Caps, or Vervain alone laid to the Head, to which Herb, well known

known to *Terence* and *Cicero*, *Forrestus* ascribes so great Efficacy, that it will cure the Head-Ach by being put under ones Bolster. Of this excellent Plant an admirable Plaster is also made. And likewise if kneaded with very sharp Leaven and Oil of Roses, and externally applied, it is very efficacious; for there is a certain Acidity in this Leaven by which the sharp Salts are precipitated. Distilled Oils of Amber, Lavender, Rosemary-Flowers, Marjoram, which can easily get into the Pores and there operate, outwardly applied are proper for some, but not for all. We may also make use of several Ointments and soporiferous Compositions, of which this following is much preferable to all others.

Take of *Unguentum Populneum* and *Alabastrinum* of each half an Ounce, *Requies Nicolai* one Ounce, Powder of the Seeds of Dill, white Poppy and Henbane of each two Scruples; Oil of Nutmegs by Expression half a Drachm, Oriental Saffron half a Scruple, dissolved *Opium* two Scruples, Oil of the Seeds of Henbane and white Poppies by expression of each one Scruple. Mix them. Lay this to the Temples as a Plaster, but take heed it be not in time of a *crisis*. Or, Take of Oil of Violets three Drachms, of Vinegar one Drachm, *Opium* and Saffron of each three Grains. With this anoint the Temples and Forehead.

If it be in the Summer, let the Juice of Crabs be mixed with the Juice of Vervain, which is also good in a malignant Pain. You may find Plasters enough here

and there amongst Authors, as of Betony, and Cephalick Plasters, but that we may not be tedious we will name one which excels all the rest, which is that of *Crato's*. We allow of Vescatories, Salivations, Leeches near the Ears, Venesection, Arteriotomy, Frictions, Cuppings, according as there is Occasion. In desperate Cases, and when the Patient had rather endure any thing than be so cruelly afflicted, a Cautery and Burning with *Moxa* may be used; some also have been cured by the Trepan, but this ought never to be done but in a desperate Head-Ach.

The *Cephalalgia*, *Cephalæa*, and *Hemicrania* proceeding from the same Causes, have altogether the same Cure. The Variety of the Causes is only to be respected.

Let the following Pultiss be laid to the Feet, especially in Malignant Fevers, and other Pains of the Head.

Take of the Leaves of Rue newly gathered two Handfuls, Roots of three Radishes, of the sharpest Leaven, Vinegar of Rue as much as is sufficient. Make a Pultiss.

Amulets of the Roots of Plantain and *Rhodium*, if they be gathered right, do sometimes avail. Also Lotions for the Feet do often help, the little nervous Fibres being by that means cherished and humoured.

Cumin bruils'd and laid to the Head is good. Let the Nostrils and Temples be anointed with Apoplectick Balsam; mixt with Oil of Amber and Cinnamon; also with Balsams of Sulphur and Am-

ber. And some things of subtil parts must be holden to the Nose, and also stinking things, as Spirit of *Sal Armoniac*. Castor, &c. In a Pituitous Head-Ach Brown Paper dipp'd in distilled Oils, as of Amber, Lavender, Cloves, and laid pretty hot to the Head are very good. *Forestus* ties green or dried Vervain about the Neck, and, as he saith, with very good Success.

Amongst outward Things you may apply Vervain, the Root of

Zedoary and *Rhodium*, Seeds of Poppy, Kernels of Peach Stones and Flowers of the same, Seeds of Henbane, Flowers of Chamomil, &c. Or,

Take Oils of Popples and Kernels of Peach Stones by Expression of each one Drachm, condens'd Juice of Vervain one Drachm and a half. With a sufficient quantity of Wax make a Liniment, with which anoint the top of the Head and Temples.

CHAP. II.

Of a Phrensy and Delirium.

§. I.

IN the preceding Chapter we have treated of those Grievances of the Head which are commonly in and about the *Meninges, Pericranium*, and nervous Membranes of the Brain; we come now to speak of such Distempers as discharge their Fury upon the Seat of the *Fancy and Memory*, that is, within the globular Frame of the Brain, or rather in the Brain it self, the *Cerebellum* and Nervous stock, amongst which this Distemper is Chief, by *Alexander* called *Phrensy*; by *Celsus*, *Madness*; by *Avicenna* *Civis*, or an *Apostem of the Brain*; by *Others* *Mentis latio*, or a *Distemper in the Mind*.

Definition.

It is wont to be defined, An Inflammation of the Brain or Membranes, causing an acute Fever, Dorage and Loss of ones Wits, proceeding, for the most Part, from the Accension of the Animal Spirits.

This sort of Madness is very dreadful and dangerous, because of the Part wherein it is commonly generated.

Division.

It is wont to be divided into *spurious* and *true*. The *spurious*, they say, is a loss of ones Wits witout an *Apostem* of the Brain, and that a *bilious* Fever commonly follows, which is accompanied with a mighty Thirst, even to that Degree, that the Patients Tongue is rough through extraordinary Dryness. The *true* Phrenzy has an *Apostem* with it. In the *spurious* the Ravings are not so violent nor frequent as they are in the *true*. We must observe that this milder sort of *Delirium* happens, especially in Fevers at the Time of the *Crisis*, and sometimes before it, and is more violent in the *Fit*, than in the Time of *Intermission*. Those that have the *true* Phrenzy never come to their Wits again, and so far lose their Memory as to forget, not only their daily Business, but the Commands of Nature. An Example of which in a miserable young Man *Forestus* has given us, l. 10. Obs. 3.

§. 2. Part affected.

WE now come to the *Part affected*, about which the Ancients are divided; and although they agree pretty well in other

Particulars relating to the Disease, yet they mightily differ in this Point; some taking it to be the Substance, others the *Meninges*, others again the Ventracles of the Brain.

Belmont and his Followers being of a quite different Opinion from all the rest, fix the Seat of this *Madness* about the *Præcordia* or Midriff, and think that the carnosus Part of the *Diaphragma* is inflam'd, and therefore that the Animal Spirits are hurried violently thither, and thereby cause this *Delirium*.

Willis enters this Labyrinth by another Clew, and places it in the globous Part of the Brain, which as it is reckon'd the Seat of the Phantasie and Memory, so likewise will he have it to be the Part affected.

Sylvius is muchwath of the same Opinion with *Willis*, and therefore we need not repeat it.

Our own Conjecture is this; That those Commotions are raised not only in the Brain, but also in the *Cerebellum*, chiefly in the globous Part of the Brain, and wherever the Animal Spirits rove about.

§. 3. Signs.

WE now proceed to the *Signs*: It is accompanied with a continual dry Fever, by reason of the Animal Spirits being irritated by the Salino-Sulphureous Recrements which are precipitated into the Frame of the Brain, not without a preceding Turgesency. And hence come troublesome Watchings and Difficulty of Sleep. For the Animal Spirits being irritated by these heterogeneous Particles,

dispersed in the Brain, are, as it were, forced to be upon their Guard every Moment. Whence it happens that the Patient often jumps suddainly out of Bed, according as the raging Animal Spirits rush violently into this or that Part or Muscle. Respiration in this Disease is sometimes more slow, at other Times it is stronger and far-fetcht, according as the exasperated Spirits flow more mildly or impetuously into the *Diaphragma*. There is a Redness of the Eyes and Face, because of some over volatile Particles that fly upward, as Smoak in a Chimney. One of the Eyes also often waters, and the Veins and Arteries of the Eyes seem to swell through the great Quantity and Ebullition of the Blood. The Body is strangely dry, and looks as if it were Sun-burnt. The Eyes look big and stern, by Reason of a too great Afflux of Animal Spirits, and the puffing up of the Fibres and Contraction of the Muscle depending thereon. The Pulse is frequent, swift and large; there is a great Thirst, and the Tongue is rough.

The affected are delirious, and so much distracted that they can make no proper Answer, nor remember what they either say or do. All their Discourse is incoherent, without either Sense or Order. They imagin various Things, and contrary one to another; sometimes weeping, sometimes singing, sometimes shouting, according as the Animal Spirits light into the globous Frame of the Brain, and move into the several Pores and Passages of it, and by their irregular Motion form again, though incongruously, those Ideas and Impressions which were made before;

fore ; for so the Mind perceives with a false Conception. They are furiously and audaciously bent upon the most desperate Attempts, and, as *Horace* speaks of Men drunk, they fall a fighting though very unfit for it. They childishly pick, and play with Feathers, Straws, &c. and their Hands tremble. The Urine in this Distemper is usually yellow and thin ; and also often white, not by Reason of the Choler being hurried to the Brain, as the Ancients erroneously did suppose, but because the Sulphureous Recrements being not well assimilated or incorporated into the *Serum*, remain in the Blood, and together with it are carried to the Brain ; So that the Urine must needs be white when it wants that which should give it its Tincture : Which, according to *Helmont*, is a very bad Symptom, who says, *When the Urine is clear and not tinged, it is a Sign of a subsequent Delirium*. So that a Fever with a continual *Delirium* is a true Diagnostick Sign of a Phrenzy, provided that the *Delirium* continue after it. For we call that a simple *Delirium* which appears in the Fever, and goes off when the Fever is over. But if it exceeds its Bounds, and continues longer, and is more intense, then one may infallibly conclude a Phrenzy is at Hand. Which still is more certain, when the Patient greedily devours his Medicines and ordinary Drink ; and also cannot make Water, his Animal Spirits being so disordered that they are not able to do their excretory Office.

§. 4. Cause.

WE now proceed to the Cause, the principal Matter in

this Disease, on the Knowledge of which the Cure certainly does depend.

The Ancients (to whom for Antiquities Sake we ought to give Precedence) sometimes derive the Cause from superfluous Blood violently carried into the Brain, sometimes from Choler enraged and causing a great Inflammation in the Brain or its *Meninges* ; sometimes from adust Choler got into the Brain or *Diaphragma*. If it proceeds from the Blood extravasated, then they observe that the Patient has a foolish Laughter, does not dote so much, nor is so feverish. If it comes from adust Choler, that then he is raving mad and fit to be bound.

Those, say they, that have their whole Brain inflamed by any Humor, quite lose their Reason, and when the fore-Part of it is only inflamed, that the Imagination is more disturbed than the Reason, but when the back-Part of it is only affected, that they lose their Memory in a great Measure. And as the Ancients ascribe a great Deal to Vapors in other Matters ; so in this Case they lay the Fault on dry Vapors, that are got up into the Brain and disturb the Animal Spirits.

§. 5.

LET us now come to *Paracelsus*, who makes the immediate Cause to be dry Mercury, sublimated by a three old Heat ; which Mercury, according to him, is elevated by the Heat, 1. Of a digestive Virtue, 2. Of Exercise, 3. Of the Stars ; For as by the Heat of the Sun several Things may be set on Fire, so the Spirit of Mer-

Mercury is easily kindled, either by Sulphur or alone, as Wine taken in a great Quantity doth sublimate Mercury like Fire. So that a Frenzy, according to him, is a Mercurial Disease, that has its Being in the Humors, and a Sublimation which proceeds from internal and external Heat. He also says in another Place, This Disease and other Species of it, do proceed from the heaping up of the Spirit of Life, which is obstructed in the Brain, and causes Putrefaction and Exulceration there. Again he says, That Tartar is bred without the Brain in the Region of the Ventricle, from which arise Phrenzy and Madness. So he elsewhere tells us of a Worm that having pierced the *pia* and *dura Mater* caused a Phrenzy.

§. 6.

Helmont says, that a certain kind of Recrement is carried to the Veins about the Midriff, and that a *Delirium* is caused thereby; and violently draggs *Hippocrates* to speak for him in these Words, *He that has a strong beating of a Pulse in the Hypochondria, presently turns frantick.* And for this Reason (continues *Helmont*) in the Schools this Passion is called hypochondriacal; adding that there are various sorts of apish and fierce *Delirium's* which vary according to the Quality of that Poison.

§. 7.

Will argues, that this Distemper is caused by the Animal Spirits being too much irritated or disordered, and confusedly hurried up and down the

globose Frame of the Brain, where he reckons the Seat of the Fancy and Memory to be, and that from thence various Phantasms and confused Notions have their Original, and being thus enraged and maddened they raise many and divers Thoughts. Whence it follows, that whilst they are sometimes in one Organ, and sometimes in another, they must necessarily cause absurd Speech and disorderly Gestures. He says, that this Madness sometimes has its Original in the Blood, sometimes even in the Animal Spirits residing in the nervous Kind. That it comes from the Blood, he proves by burning Fevers, when the Blood boils too much, in which preternatural Effervescency, the heterogeneous, wild Particles, by means of a spumous Rarefaction of the Blood, get into the Pores of the Brain, and exagitate the Spirits and put them into Confusion. He proves it likewise by Drunkenness, when those intoxicating and untamed Particles are carried into the Brain and cause this sad Effect. Nor does he exclude malignant, contagious Particles (as we see in the Small-Pox, Meazels, malignant Fevers, Plague) which being got to the Pores of the Brain, disorder the Spirits and cause a Phrenzy. He proves by the same Reason, that Nightshade, Mandrake, and other venomous Plants and Poisons may easily cause this Disease. And as he has thus far shown that the Cause may proceed from the impetuous Violence of the Animal Spirits; so does he likewise on the contrary assert, that it comes sometimes from a Penury and Scarcity of them, which he proves by those that are agonizing or at the last Gasps, as also such as

are macerated with Hunger, Watchings and Hemorrhages. He says further, that sometimes the Blood is not at all in the fault, and that is, when the Animal Spirits that stand Sentry are only disordered amongst themselves by some external Cause, which he proves by Hysterical and other convulsive Distempers and Motions.

§. 8.

Now we come to *Sylvius*, who makes this Disease to arise from a very sharp and volatil Choler, or such like Humor, consisting of sharp volatil Salt, and associating it self with the Spirited Part, and disturbing the Animal Spirits; by which Means, he says, sometimes the Imagination, sometimes the Memory, and sometimes the Phancy is hurt, and that from hence a *Delirium* proceeds.

§. 9.

Artes and his Followers make this *Delirium* to be a short Fury, which while it continues Men think, speak and act many ridiculous Things. Sometimes they judge it to arise from the Heat of the Blood, when it is stuff'd with sharp and other ill Particles, which run into the little Pores of the Brain, and its Membranes, and sometimes sets them on Fire, and from thence they derive an Inflammation, which they say is, when triangular Bodies light into round Pores, and thereby leave three little Spaces on each side of them according to their three *Superficies*; to the filling of which there flows in a certain sort of subtile Matter,

by the Influx whereof, the Parts and Humors are disturb'd and mov'd, from whence they argue this Inflammation arises. Nor do they doubt that the Animal Spirits may be in Fault through their Mixture and Motion, especially if they be more subtile and more agitated than they ought to be; for then, say they, they form other Ideas; and the *Glandula Pinealis* cannot discharge its duty, because the Animal Spirits do not obey it, but being unruly and disobedient to its Command, run hither and thither and fly away again. Now the Soul judging according to the Motions that are brought to it, in this Perturbation of the Animal Spirits the Motions are irregular and uncertain, and therefore there can be no regular compos'd Thoughts. They prove that that subtile Matter does contribute much to the Distemper, from this; That Men as well as Dogs are most obnoxious to this Disease in the Summer-Time, and particularly in the Dog-Days, when this subtile Matter flows in, in greater Quantity, and the Blood and Animal Spirits, like so much combustible Matter, are sooner kindled, so that their Motions must needs be biassed.

§. 10.

HAVING given the Opinion of others, now we may be allowed to put in our *Own*. Which is thus; That the Animal Spirits being kindled are confusedly driven this Way and that Way, in which furious Dispersion sometimes they open these, sometimes other Pores of the Brain, and violently crowd thorow wherever they find a Passage.

Now that which causes this Disturbance and Confusion, is the Blood over heated, and full of Sulphureous Recrements, carried to the globous Part of the Brain, as we see every Day in Fevers, in which there are also sharp and eager Spirits. For as long as these Spirits consist of oily Parts, and some few sharp and watry ones conspiring together; so long they are quiet and all is well. But whenever sharp Particles do preternaturally abound and bear Sway in the Spirits, presently there arise Com-motions and Disorders in the globous Part of the Brain where this Mischief happens. Which is manifest enough by two frantick Persons which we opened, in whose Brains we could not find the least Extravasation either of Blood or any other cholerick Humor, or Inflammation of the *Meninges*, or any *Apostem*: And again we have seen others who had ill favoured Wounds in their Brain, and yet died without raving. So that we do not doubt that some sulphureous, sharp, salt, pungent Recrements, that have their Birth from Intermittent, Continued or Malignant Fevers; or from drinking too much Wine, and the unseasonable Use of other hot Cordials which are carried into the Blood and Spirits, or from some Poisons, do irritate the Animal Spirits, so as to break the Enclosures of the Brain, and creep here and there into the Pores thereof, according as they can get Entrance. It is plain by many Examples, that poisonous Herbs may bring this Disease: For I my self in a Village call'd *Lindheim* near *Limbourg* in *Germany*, saw the Master of the House with his Son and two Daugh-

ters, run so mad by eating of Hemlock which they had mistook for Chervil, that they could speak nothing but Nonsense, dancing and running up and down the House and playing strange apish Tricks; which was occasion'd, no doubt, by the Animal Spirits turn'd raging mad by the poisonous Particles of the Chervil.

The Reason why this Distemper siezes those that are at their last Gasps, and other weak and old Men, is, That the Animal Spirits being almost quite spent, and forsaking in a great Measure the extreme Parts, do retire to the Brain, where they make their last Effort, in which Extremity and Danger they in great Confusion and Distraction open unusual Pores, and cause a *Delirium*. Which we may observe in an outward Part that gangrenes; for the Animal Spirits being in Danger to be destroyed, make hast to be gone, and therefore shelter themselves in the Brain, where, by their Disorder, they occasion a *Delirium*. Not much unlike to Garrison-Soldiers, who being beat by the Enemy from their Out-Works, retire into the Fort, and in their Hast beat down or break thorow whatever stands in their Way. Here we are to observe, that as a Fever brings a *Delirium*, so likewise does a *Delirium* bring a Fever.

The Judgment in this Distemper does not suffer, altho the Soul produce nothing but absurd and ridiculous Effects; for when the frantick Person chides and is angry, such Idea's are really represented to the Soul, so that it must needs think of chiding; but its Error lies in thinking that those Idea's are presented to it by some outward

outward and present Cause, not in the Judgment.

The Eyes often, when the Disease is not violent, shed Tears, because through the extraordinary Motion of the Blood and *Serum*, there is more *Serum* carried to the *Glandulae Lachrymales* than can be conveniently discharged by the Lympheducts, so that it must needs be forc'd out by way of Tears; but Weeping is only accidental in this Distemper.

There is often a Trembling also, because through the violent Motion of the Blood and Spirits, the Valves are forced and in a Manner moved, and so the Spirits run violently out of one Muscle into another.

The Dryness of the Mouth in this Distemper proceeds from two Causes. Either when the *Serum* and all the watry Parts of the Blood are in great Quantity driven through the Habit of the Body or other Passages, so that none flowing to the Mouth or Throat to moisten them, a Dryness and Thirst arise, which may be quenched by drinking. Or, from some Obstruction in the *Glandulae Salivales*, so that little or no *Saliva* can come to the Mouth. In this Case Thirst is not abated but encreased by drinking, because it makes the Obstruction greater, which ought to be opened.

§. II. Prognostick.

AS to the Prognostick, It is an acute and very dangerous Disease, and kills in seven Days if there be not speedy Help. And that Phrenzy is most dangerous in which the Urin is white and clear, as *Hippocrates* says, l. 4. Aph. 72.

Constant Watching and a lasting Madness are often mortal Symptoms. If Sleep allay it, there will be no Danger. A bilious, virulent and black Vomiting, is an ill Sign, and a dismal Messenger of Death, and as *Hippocrates* witnesses, Death is even at the Door. Those mad Freaks which are accompanied with Laughter, are not so dangerous as bold and premeditated ones are. That Phrenzy which is attended with a hectic or a dry hot Body, is seldom cured, because the Animal Spirits in this Case are very sharp. There is also more or less Danger according to the strength of the Patient. If it remits often, and has many Intervals, it is much better than when 'tis continued. Also young Men are sooner cured of this Disease than old Men, as they are oftener troubled with it than old Men are; for young Men have hotter and more vigorous Blood, and so their Animal Spirits are more furious and the sooner irritated. But old Men have their Spirits more sedate and quiet, and not so easily angred.

If the Excrements be white, it is an ill Sign, because the *Ductus Choledochus* is obstructed, so that the Choler is not carried to the Intestins to tincture the Excrements, but to the Brain. When the Stools are red it is an ill Sign, because it shows either that the Heat is immoderate, and that all is in a Manner burnt up, or that Blood is mixt with them. To pick Straws and Feathers is often a Sign of ensuing Foolishness.

When the Urin is pale and clear, it is a bad Symptom, not because the Choler is carried to the Head, as is vulgarly thought, but because the Pores of the Reins are obstructed,

cted, so that the tincturing Humor cannot pass through them.

Shaking and Shivering are bad Signs, because they denote Defect of Spirits, and Obstruction of the Nerves. Hither also belong the Aphorisms of *Hippocrates*, S. 6. *Aph.* 11. The Hemorrhoids do good because they evacuate, for Evacuation is profitable. Also S. 3. *Aph.* 30. Likewise S. 7. *Aph.* 12. because a great Disease comes upon the Back of another. If the Mischief arise from drinking Wine, and taking other hotter Cordials, and if the *Crisis* be rightly made in a Fever by Urin and Sweat, it is not so dangerous, but may be easily cured. But if the Animal Spirits (tho they be not so hot) contract an ill Habit, and by that Means the Passages and Pores of the Brain be spoiled and perverted, a lasting *Delirium* often follows, as the famous *Willis* also has observed as well as we.

S. 12. Dietetic Cure.

NOW we come to the *Dietetic* Cure, which as in all other Diseases, so likewise in this is principally to be observed.

The *Air* must be temperate and pure, inclining to cold; on the contrary, that which is hotter and dryer must be avoided; for the subtile Matter, according to *Cartes*, may irritate the Animal Spirits of those that are inclinable to this Distemper; and it is observable that Phrenzies are commonly bred under the Dog Star, it being then a hot Season.

The *Meat* must be moist'ning and cooling, such as Ptisan, Barley husked and boiled, Lettuce, Endive, Spinach, and the like, which may

be boiled in Broth and given to the Patient. Moderate Eating must also be observed; for as to eat too much heightens the Disease; so likewise too much Abstinence decays the Strength, and dissipates the Animal Spirits. In the Declension of the Disease you may give Fish that delight in a stony bottom, as Trouts, &c. And by all Means have a Care of sharp, hot aromack Things, which fire the Blood and Animal Spirits.

Let the *Drink* be Barley Water sharpened with Spirit of Vitriol. Several Sorts of Juleps also are good, made of distilled Waters and acid Syrups; as likewise Decoctions of Tamarinds, or Nitrous Mineral Water. All spirituous Things and hot, whether rich Wine, or Spirit of Wine, or other hot Cordial Waters, are industriously to be avoided. For it cannot easily be imagined how much by the Use of these the Spirits are irritated.

Exercise must be gentle and moderate, nay *Rest* is rather to be enjoined than that which is too great and inordinate. Frictions of the lower Parts, whereby the Animal Spirits may be composed, especially when the Symptoms are most favourable, are to be advised.

Sleep must by all Means be procured. For hereby the Animal Spirits become more sedate and governable. But if the Patient cannot sleep, he must be brought to it by Narcoticks taken inwardly, and applied outwardly, viz. by the Use of anodyne Topicks. Whence it follows, that Watching is to be avoided as an Enrager of the Spirits.

The *Excretions* by Stool and Urin ought to be agreeable to Nature, or else they must be often procured by

by Art. The affected are frequently to be put in Mind of making Water, and the Chamber-Pot is to be offered to provoke them to it. For the Animal Spirits do not flow in a sufficient Quantity to contract the Muscles of the Bladder.

Passions of the Mind must be agreeable, and those that are good humored, and such as the distemper'd Person takes most Delight in, are to be desired to keep him Company. All great Perturbations of Mind, as Anger, &c. are to be avoided as cautiously as a Mariner does a Rock; and the Passion of Love, is dangerous above all the Rest. I knew two young Men, who being ardently in Love with their Mistresses, when they despair'd of Success in their Amours, fell into a *Phrenitis Aphrodisia*, as they call it, or became mad through Love, and the poor Wretches, fancied themselves Kings. Of such also you may read in the German *Ephem. An. 6. & 7. Obs. 54.*

§. 13. *Pharmaceutic Cure.*

NOW we proceed, as our Method requires, to the Cure by *Pharmacy*, and first we bring in the *Ancients*, who, for Fear of an Inflammation, and after that, an Apostem, presently advise Bleeding. Then they keep the Body loose with Clysters, and at the same Time, to prevent the coming of the Humors and Blood to the Head, use *Repellents*, such as an *Oxyrrhodinum* of Rose-Water, Vinegar and Oil of Roses; this, and other cold Things of the same Nature soaked in a Cloth they apply cold to the Neck, fore-Part of the Head, or the whole Head, and often repeat them.

For the same End they prescribe Embrocations of a Decoction of white Poppy, Henbane, Flowers of Water-Lily, Violets, Roses, and of the Juice of Plantain, Lettuce, *Sempervivum*, &c. They also steep pieces of woollen Rags in these and other Liquors, and lay them to the fore-Part of the Head, believing that they drive away, thicken and cool Vapors and hot Humors. They advise the applying of *Unguentum Alabastrinum* and *Populneum* to the Temples. Also that the Force and Violence of the Humor may be stopt, they command the Application of Cupping-Glasses with Scarification to Parts near the Head, if Venesection was upon any Account omitted. Afterward that the Heat of the Blood may be somewhat allayed, they give a convenient Syrup, which also may cause Sleep. After the Humors are some Way or other pretty well compos'd, they next contrive to discharge by Catharticks the sharp Reliques which are left behind. When the Cause proceeds from Choler or Blood they purge with Electuary of Juice of Roses, *Diaprunum solutivum*, Syrup of Roses, *Pilula aurea*, Troches of Rhubarb, *Cassia* newly drawn, *Manna*, Rhubarb infus'd in Water of Endive. When it comes from Melancholy, or, when black Choler, as they call it, does abound, they use stronger Purgers, as Extract of Hellebore, Leaves of *Senna*, &c.

After that they try to keep the Humors from the Head by binding and rubbing the outward Parts, and by Lotions. Their Revellers are Blood-Letting, Clysters, Leeches applied to the Forehead and Temples. They also prescribe washing the Feet and Hands in a Decoction of Lettuce, Violets, Plantain, &c. Then

Then they strengthen the Brain with their Corroboratives, as *Diamargariton frigidum*, Syrup of Pomgranates, Conserve of Violets, Flowers of Water-Lily, Bugloss, &c. Nor do they neglect Baths of fresh Water, and Irrigations of the Head with Violets, Lettuce, Flowers of Water Lily. They shave the Head and lay thereto a Ram's Lungs or Liver, a Whelp, Capon, Hen or other Creatures gutted, cut in two and reeking hot. The Thirst which is usually very troublesome in this Distemper, they assuage with Juice of Currans given in a convenient Decoction to the Quantity of one Ounce or more. They cause Rest with Anodynes and Opiats, but dissuade the too frequent Use of them, lest the Distemper turn into a Lethargy. And if the Urin be stop't they provoke it by Diureticks and proper Bags applied above the *Pubes*, taking their Measures according to the Patients Strength.

§. 14.

NOW we come to Paracelsus's Way of Cure, which consists commonly in these three Things. 1. In taking away the Sublimation of Mercury. 2. In removing Obstructions. And 3. In restoring and strengthening the Animal Spirits when they are weakened. The Business of the first is done not only by Coolers, but by Anodynes too, which by their stupefactive Quality do assuage and coagulate the raging Spirits: For which he mightily commends *Laudanum*, his own Invention, taken from three to five Grains; by which he tells us, a German Prince afflicted with this Disease, was made perfectly well both in Body and Mind.

Yet some of his Sect prefer Mineral or Metalline *Laudanum*, others *Laudanum* without *Opium* of the Sulphur of Vitriol. For the second, *i. e.* to remove Obstructions, he says the Spirit of Vitriol, especially that which is call'd the Philosophical Spirit, *Arcanum Vitrioli*, Extract of Hellebore, Salt of Urin, Spirit of Salt, Spirit of Nitre, the Antimonial Elixir of *Paracelsus*, &c. For the third Indication, *i. e.* to comfort the Brain, he commends the Water, or green Liquor, or Sky-coloured Tincture of Silver, or Tincture of the Moon, Essence of Topaz, Sapphir, Emerald, Oil of Amber, &c. The chief Remedies of other Chymists in this Distemper are, the true Tincture of Gold prepar'd with the corrosive *Menstrua's*, given every Day from three to six Drops, Tincture of Coral, Oil and Salt of Pearls, as also Spirit of Camphore given in Rose-Water, and Magistery of Tartar given in Water of Swallows with Castor.

§. 15.

HELMONT thinks the Remedies should not be applied to the Head, because he supposes the Cause of Madness and Phrenzy to lye in the *Præcordia*. But that is to take Notice only of the Effect, and not the Cause; like silly Currs that bite the Stone thrown at them without regarding the Hand that threw it. And therefore it is that he advises the Immersion of the Patient in cold Water; and, which is safer, as he exceedingly extols the soporiferous, Narcotick Philosophical Sulphur of Vitriol in all Alienations of Mind, so particularly in this Phrenzy.

§. 16.

Willis teaches that two Things especially are to be regarded in curing this Distemper, The Fever and the Turgescency. Therefore the Heat or the boiling of the Blood, from whatever Cause it proceed, is to be presently allayed and stopt, and the enflamed Animal Spirits, must be gently composed and extinguished. For which Reason he is of Opinion that the Patient must immediately be blooded, and that it should be often repeated if his Strength will bear it (for Nothing more quenches the enkindled Blood than Venesection) which, he says, must be done by opening a Vein either in the Arm, or Hand, or Forehead, or Foot: Nor does he reject Arteriotomy, Bleeding with Leeches, Cupping-Glasses: and, above all Things, he commends Clysters for preventing the Feverish Matter from flying from the *Viscera* up to the Head. Amongst Purgers, he allows of Loosners, and such as purge gently; as for Vomits and strong Catharticks, being Things that very much weaken, he quite excludes them. He cries up a Cataplasim of Rue, Vervain, Briony-Root, Flowers of wild Poppy with Soap applied to the Feet. Nor does he ascribe less to Juleps and cooling Decoctions, in allaying the Heat of the Blood. But if all these foresaid Medicines prove ineffectual, he has Recourse to a moderate Use of Hypnoticks and Narcoticks. But he bids us deal cautiously with them, lest the Morbifick Matter dispersed in the Brain, be thereby more closely and deeply fixed in. Yet he says his liquid

Landanum, prepared with Salt of Tartar and Juice of Quinces, has been often effectually used, either taken by it self, or in any convenient Liquor and Dose.

For this Purpose he also applies externally soporiferous Epithems, to the Temples and fore-Part of the Head to cause Sleep; likewise Lambs and Weathers Lungs reeking hot, or Pigeons or Chickens cut in two and laid to the Head. Housleek also bruised in Woman's Milk and laid to the fore-Part of the Head, he asserts to be very good. Yet all these Things he bids us be sure to use with Respect to the Patient's Strength, or else our Labour is in Vain; for if we destroy the Animal Spirits, we cure the Disease by killing the Patient. Therefore to preserve Strength he advises to take about 20 Drops of the Tincture of Coral twice or thrice a Day, in a proper Cordial Draught.

§. 17.

Splivius, to correct the sharp Choler which he supposes most commonly to be the Cause of the *Delirium*, and which weakens the natural Consistency of the Blood, and sometimes destroys the Foundations of Life, uses chiefly this following Mixture.

Take of *Diascordium* of *Fracastorius* two Drachms, Confection of Hyacinth one Drachm, Syrup of white Poppy one Ounce, Water of Plantain two Ounces, Fennel one Ounce. Mix them.

This he gives by a Spoonful at a Time and very often; advising likewise in this Case to let Blood.

He

He calls in also Dietetic Remedies to correct the sharp Choler. Commending a gentle cool Air, fattish Victuals, Almond-Milk, Barley-Broth, or Emulsions prepared of them, because these Things do dull and correct the sharp Particles of the Choler. He says that a Jelly of young Flesh has the same Effect, for the same Reason, because it abates the Acrimony of the Choler and dulls it. He much commends small Beer brewed with Barley, and Pisans of the same with Liquorice, Raisins and Currans skin'd, with which the vitious Matter, to wit, the Sharpness of the Choler is corrected, and Rest is absolutely commanded both to the Body and Mind. He thinks likewise that Mirth and Sadness, provided it be but moderate, contribute much to the Cure of this Disease.

§. 18.

Cartes and his Followers commend Opiates to mitigate a *Delirium*, assuage Ravings, regulate the Disorders of the Blood, and allay the burning Fury of the Animal Spirits, which are caused chiefly by irregular Particles and Intervention of a subtil Matter. Which Opiates force these furious Spirits to a Repose, stop, and, as it were, conglutinate the Nerves, and gently correct those sharp Particles which so cut the Fibres and Branches of the Nerves, that the Fibres which before were stretch'd like Strings of an Instrument, run back and are turn'd into certain round Curles or Circles, which foresaid Rings or Curles being got into the Passages of the Nerves stop the gliding Spirits, so that they cannot be carried to the several Parts of the

Body and discharge their Natural Offices. The *Cartesians* likewise do magnifie *precipitating* (by others commonly called *cooling*) Medicines; as, *Nitrum Perlatum*, which being dissolved in Water is of great Use, because it fixes the Spirits and Blood, and also opens Obstructions; they also commend destilled Vinegar, *Antimonium Diaphoreticum*, and all heavy Things, as Pearl, Coral, all shelly Things, all Martiates, Chalk, Bole, each of which put a Stop to the Animal Spirits, and retard the Motion of the Blood, that neither the one nor the other can fall out; for which End he so much commends the forementioned Opiates.

§. 19.

Our own Opinion in curing this Disease (besides the Dietetick Cure to be observed as before) is as follows. There must be all Care imaginable taken that the Animal Spirits dispersed and enraged, be again quell'd and composed; which Intent is answered by Venesection and Arteriotomy in the Arm, or Forehead, or rather in the Temples, because the Blood is too quick and subtil. By which Arteriotomy I happily cured a certain Butcher that was Frantick, without any other Remedy: the wound of the Artery after Incision, being bound up with the common Plaister of Hares Furr and the whites of Eggs, or by our own Styptick Liquor (or, instead thereof some other Styptick) 'tis wonderful to think how sedate the enraged Spirits do become thereby, and how well they perform their Offices. Amongst other Chyrurgical Operations which are to be used according

according as there is Occasion, the following are not to be neglected, to wit, Bleeding with Leeches, Cupping with Scarification, by which Means the raging Animal Spirits may be discharged.

We commend the Infusion of divers Liquors into the Veins, especially of Opiates, as the Anodyne Essence of *Zuelfer*, &c. And the Transfusion of Man's, Calf's or Lamb's Blood into the Veins of the distemper'd Person; for by this, as by a Donative or Largeess, the Fury of the Animal Spirits is abated. Veficatories likewise are not useless, which carry off the sharp Particles that offend the Spirits. And to this End also Frictions and Ligatures of the extreme Parts, Baths and washing of the Feet are convenient. Thus the German *Ephemerides* tell us of a young Man mad with Love, and so dry that his Bones would scarce hang together, that was cured by bathing in fresh Water.

We now pass on from the *Chirurgic* to the *Pharmaceutic* Part. Gentle, cooling, mollifying, loosning Clysters must be given; for in all acute Diseases strong Purges are hurtful, because they encrease the Motion of the Blood and Spirits. In like manner if there be many sulphureous Particles which do not easily give Way to strong Catharticks, which do themselves irritate the Animal Spirits, I would advise gentler Lenitives to be given, such as Decoction of Tamarinds, of Barley, with Raisins and Roots of Sorrel, adding, to make it grateful to the Taste, either Syrup of wild Poppy, or Barberries, or Wood-Sorrel, &c. all which do wonderful well perform their desired Effect. To compose and allay the Fury of the Animal Spirits wa-

try and acid Things are good; for they restore the *Serum*, which if wanting may be prejudicial; such are Water of Endive, Plantain, Sorrel, Whey, divers Juleps, &c.

Amongst *Acids* these excel; The Juice of Citrons, acid Pomgranates, Sorrel; acid Mineral Spirits, of Vitriol, *Clyffus Mineralis Antimonii*, Phlegm of Vitriol, Tincture of Roses, of the four Cordial Flowers, &c.

Nitrous Things also, which are reckoned amongst Acids, do very much abate the Heat of the Blood, and assuage and bridle the roving Spirits; as, *Nitrum Antimoniatum*, *Perlatus*, Nitrous Mineral VVaters, &c.

Terreous, or Earthy Things also are to be given for the same Purpose, because they do the Work by precipitating, and those are Coral, Pearl, the five precious Stones, Shells, Unicorn's Horn, and almost all ponderous Things. For the sake of young Practitioners, we set down the following Forms.

Take of Water of Endive, Wood-Sorrel of each three Ounces, Plantain one Ounce and a half, Spirit of Nitre thirty Grains, Syrup of wild Poppy one Ounce. Mix them and make a Julep. Or, Take of the four greater cold Seeds, of each one Drachm, white Poppy an Ounce and a half. With Water of Endive, Self-Heal, Lettuce as much of each as you please, make an Emulsion, adding in the End a Drachm of prepared Coral.

A Decoction of Hips is commended by some. Or,

Take

Take of *Lapis Prunella* (or of *Nitrum Antimoniatum*) an Ounce and a half, burnt Harts-Horn half an Ounce. Mix them. Let some of this Powder be put in Whey or ordinary Drink.

Also Tincture of Roses, Violets, Essence of Pimpernel compound, *Minera Saturni*, &c. are very good.

But if these excellent Medicaments prove unsuccessful, our last Recourse is to Opiates, that seldom or never fail; for they compose the disordered Spirits, refresh decayed Nature, and when tired out, do cherish her with pleasing Rest. Or they bridle the raging *Lympha*, or the too much fermenting mass of Blood, and do also reduce the tumultuous Spirits under their former Government. But one Thing is to be observed of Opiates, when they have to do with a Phrenzy that comes of a Fever; that when the Fever is predominant they are not so certain, nor do so exactly answer the Physician's Expectation; yet if they are given when the Fever declines they prove very effectual, as also the experienc'd Dr. Sydenham observes in his excellent Book of Fevers; and there you will find the Reason why they are not Effectual if given before. We saw the same Effect in a certain Woman at *Limbourg*, who in the Declension of a malignant Fever, drank a quarter of a Pint of rich Wine, and fell into a Phrenzy, whom we fortunately recovered with the following Opiate mixture, given now and then to three Spoonfuls at a Time.

Take of Water of Betony, Borrage of each an Ounce and a half, Tin-

cture of Roses six Ounces, Opiate *Laudanum* cut five Grains, Confection of Hyacinth one Drachm, Syrup of Sorrel, Citron of each six Drachms, Spirit of *Sal Armoniac*. ten Grains. Mix them, and let it be given as aforesaid.

But these Narcoticks are not by any Means to be given when we think the Patient is weak, and that a *Crisis* is at Hand; and we must always begin with a very little Dose, to see what the Blood can bear, as, suppose, with this.

Take of Syrup of Poppy three Drachms, Opiate *Laudanum* one Grain. Mix them. Afterwards always the Dose may be increased.

The *Pulvis absorbens* of *Wedelius* described in his excellent Treatise of *Opium* does the same Thing. The Anodyne Tincture of *Zuelfer* from a Drachm to a Drachm and an half, *Laudanum Cydoniatum* of *Hoffman*, our own *Theriaca Celestis*, and somniferous Emulsions, and several other such sort of soporiferous Medicaments are very effectual in composing and allaying the raging Spirits.

Amongst Specificks we reckon our own Powder which we call *Praunon*, because it does wonderfully appease the Animal Spirits when disordered, and indeed we have done prodigious Things with it in this Disease, especially by giving it often; which we willingly communicate for the sake of young Practitioners.

Take of the Specifick Cephalick of *Michael* one Drachm, *Laudanum Cydoniatum* of *Hoffman* half a Scruple, *Nitrum Antimoniatum* half a Drachm,

Drachm, Crabs Eys prepar'd, Magistery of *Luna*, Amber of each half a Scruple, Leaves of Gold No. 11. Mix them, and make a very fine Powder. The Dose is from half a Scruple to a Scruple, or half a Drachm.

Ground-Moss is also very good.

To remove Obstructions in the Brain and *Meninges*, and to restore the Blood to its due Mixture, the following anti-Febrifick Sudorifick may be prescribed.

Take of *Carduus benedictus* fifteen Grains, *Laudanum Opiatum* one Grain, sweet Spirit of Nitre six Drops, Water of *Carduus benedictus* two Ounces, Syrup of Poppy three Drachms. Mix them. Or, Take of *Bezoardicum minerale* half a Scruple, Water of *Carduus benedictus* three Ounces. Mix them.

Or this following Powder may be given, which hath done Wonders.

Take of *Lapis Prunella* fifteen Grains, Camphore three Grains, *Laudanum Opiatum* half a Grain. Mix them, and make a Powder.

Having done with internal now we come to external Remedies, which we would not have neglected; amongst which we advise cooling and precipitating Epithems of Water and Vinegar of Roses, or of the Seeds of white Poppy, Lettuce, Kernels of Peach Nuts, with Water of Roses, Poppy, Water Lily, Lettuce, Endive, applied to the Forehead and fore-Part of the Head. The same Effect have divers somniferous Unguents, and especially our own soporiferous

Mixture laid to the Temples in Form of a Plaister. *Willis* is for the Application of several Animals abovementioned, as Pigeons, Chickens, Whelps, &c. We shave the Head and lay thereto live Swallows cut in two in the Middle; which Secret we extremely value; for it does mightily appease and mitigate the Fury of the Animal Spirits, and a pure gentle Heat and Steam issues from them, which is very agreeable to the Pores, and very proper for removing Obstructions. Cataplasms of green Herb, Purslain, Sempervive, Flowers of Roses, Water Lily, Chamomil, and Melilot are very good. You may also apply Leaven and Rue to the Soles of the Feet, and Epithems to the Testes. *Barthollett. in Method. de difficil. Respir. l. 5.* mightily commends the Pulp of Garden-Gourd bruised, and says, that if laid to the Head, when shaven, it wonderfully cools, and that herewith he cured a desperate Phrenzy.

The Cure is sometimes to be directed to the Symptoms, so that to provoke Urin, if the Patient forgets, the *Pecten* and *Perinaeum* must be anointed with Oil of Scorpions and some fix'd Salt, that by the Acrimony the Bladder may be irritated.

Take of Oil of Scorpions three Drachms, Seeds of *Daucus* of *Creet* one Drachm. Mix them.

If there be violent Heat, the following Powder is convenient, which will cool, and yet not obstruct.

Take of *Nitrum Perlatum* half a Scruple, Camphore two Grains, *Bezoardicum Minerale* five Grains.

Spirit of Nitre is also very good.

Take two Pints of Whey in which Steel has been quenched, add thereto of Syrup of Sorrel, Citron, or some other an Ounce and an half, or of Tamarind Wine. Or, Put thirty Drops of *Mixtura simplex* or *Bezoardica* in ordinary Drink.

The following *Oxyrrhodinum* is excellent to cause a gentle Sleep.

Take of Rose-Water ten Ounces, Juice of Lettuce two Ounces, *Opium* half a Drachm, Saffron a Scruple. Mix them, and make an Epithem. Or, Take of the

Sperm of Frogs six Ounces, Juice of Crey-fish three Ounces, *Opium* corrected with Vinegar half a Drachm, Camphore, Saffron of each six Grains. Mix them.

For a Liniment to the Head use the following.

Take of *Unguentum Populneum* half an Ounce, *Laudanum Opiatum* six Grains, or of *Opium* twelve Grains, Camphore half a Scruple, Oil of white Poppy, as much as is sufficient to make a Liniment.

Or, you may apply the bruised Pulp of a Garden-Gourd, or the Juice of Lettuce, Purslain, Nightshade, &c. to the Forehead.

CHAP. III.

Of Melancholy.

IN the preceding Chapter we treated of the Animal Spirits, when tumultuary and ungovernable, here we find them, on the other Hand, so much dejected and declined from their Natural Briskness, that they are scarce able to perform any Function aright.

§. I. Definition.

THIS Distemper is commonly defined by others, *A certain sort of Delirium or Dotage, without a Fever and Rage, proceeding from a melancholy Humor*; which in our Opinion is well enough, but for Perspicuities sake we give this Definition, *A Delirium without a Fever and Rage, arising from the Dullness and Unactiveness of the Animal Spirits.*

The Essential Cause of this Distemper (if it be not clearly explain'd already) is, the Imagination's being so disturb'd as to fancy strange and monstrous Things, but yet with Fear and Sadness; whereby it comes to pass that the Animal Spirits, forgetful, as it were, of their Duties, flow less plentifully into the several Organs to perform their Offices, so that the *Viscera* being defrauded of their Spirits,

have not their due Fermentation, without which they cannot perform their proper Actions, whence the Body becomes fill'd with acid, viscous and tenacious Flegm; and then those few Spirits being entangled, and as it were agglutinated in this rough Matter, are insensibly wasted every Day more and more, upon the loss of which the diseased Person lives very miserably. But to come nearer the Business, and to give the *Genus* of our Definition. In this Disease are found various *Delirium's*, and (as *Willis* says) fabulous Antiquity has scarce invented any *Metamorphosis* of Man, which some or other have not fancied in themselves.

§. 2. Division.

WE divide this Disease into *Melancholy Cephalic*, and *Hypochondriac*. A *Cephalic* is when the Disorder is in the Brain, and the *Hypochondria* are not in fault: The *Hypochondriac* is when the Disease has its Seat about the lower Part of the *Abdomen*.

§. 3. Part affected.

NOW we come to the *Part affected*, which according to the

Opinion of the Ancients is the Brain it self, and they say it is hurt as it is a peculiar Part; for they derive all the chief Faculties of the Soul from thence, and will have in this Case the principal Faculty thereof, that is, the Imagination, not the Cogitation or Memory, to be hurt. The excellent *Hippocrates* asserts, 6. *Epid. Sect. 8. t. 58.* that the Soul in this Distemper, is distinctly affected, and, as it were, without the Body and Brain. The Brain, say others, is hurt essentially, and that then there are no Signs of the *Præcordia*, *Hypochondria*, or of any other Part being affected, and that in that Case the Symptoms are more favourable, and that a Lividness appears in the Face: If the Brain be hurt by Communication or Consent; as by the Spleen, *Hypochondria*, or by the Womb, when a melancholy Humor is generated there, that then the Symptoms commonly ascribed to the Womb do appear in those Parts affected. For they tell us that in Child-bearing Women, whose *Lochia* are stop'd, or in Maids when their Terms do not flow, the Blood is spoil'd, and becomes more fixt, and is turn'd into a melancholy Dyscrasy, and that by this Means this Distemper arises. For which Reason the Ancients blame the Spleen; but Our Opinion is, that rather the morbid Product than the Disease it self, lies there. The famous *Willis* thinks that both the Heart and Brain in this Case are affected. Some take the Corporeal Soul to be the Subject of it. *Helmont* thinks that it lies out of the Brain in the *Præcordia*, and about the Mouth of the Stomach. Our own Opinion, in short, is, That it has its Residence in the globous Frame of

the Brain, which being the principal Part, and the Fountain from whence the Animal Spirits issue out into every Corner of the Body, if they be dull, languid and unactive, the *Hypochondria*, Spleen, Liver, *Pancreas*, Mesentery, Womb, &c. being thereby deprived of their Fermentations, must needs suffer in the common Calamity, and be the Receptacles of latent Evils.

§. 4. Signs.

THe two principal Signs of this Disease are Fear and Sadness; all melancholy People are extraordinary fearful and sad; which the famous *Willis* (as we have heard above) ascribes to the Passion of the Heart; for it must needs be a Fellow-Sufferer, when the Animal Spirits are so dull and sleepy that they cannot irradiate and puff it up. For whereas naturally and in a sound state they ought to be brisk, lively, clear, fine and lucid; now they are sad, dark, and as if they were dead, and as terrible as the dismal blackness of Night, which may make the boldest Courage shake. A joyful Spirit, on the contrary (says the *Wise Man*, *Prov. 17. 27, &c.*) makes the days of a Man's Life pleasant and flourishing; whereas a sad Spirit causes the Bones to dry, and brings a speedy Death. Those that are affected with this Disease are weary of their Lives, infected with frightful and very intent Thoughts, have strange Convulsions of their Limbs, and are Epileptical through the whole Body. They begin to talk idly, and without any Order. They also often fall a weeping, and take Pleasure in being alone, and anon dislike what they so lately delighted in. They

They are so jealous that they think every body cheats and lays Snares for them, and are even afraid of Poison in their Bread. They sleep so little that the Nightingale is not more vigilant; and this short Repose is attended with strange frightful Dreams, which many Physicians erroneously ascribe to Vapors arising from the Spleen, which We (with those of better Judgment) impute rather to Spirits got out of their proper Sphere.

These were the General Signs, now we come to the Special. Some Melancholy People have always a foolish silly Laughter like *Democritus*; others again never cease Weeping, as if by a Pythagorean *Metempsychosis*, the Soul of *Heraclitus* had transmigrated into them. Many imagine themselves Prophets and prophesy of things to come. Some do vainly fancy that they are great Kings or Princes, and that the Staff they carry in their Hands is a Scepter. Others believe that they are transform'd into a new Species, whence it is that they imitate the Sounds and Gestures of Cuckows, Cocks, Wolves, Dogs and other Creatures. Many think themselves earthen Pots, and therefore are afraid of meeting any Body lest they should be broken. Others that they are made of Glass, and are much concern'd lest by being too hard grasp'd they should be crush'd to Pieces. Some that they are dead, and are very importunate to be carried to their Graves. Many think they see an evil Spirit in this or the other Pot or Chest, and for that Reason they are thought by the Vulgar to be possess'd by the Devil. Others, though they fear Death, yet some wish for it, and sometimes do lay violent Hands

upon themselves; three Examples of which, I my self have known. Some think they want their Heads. Some all their Members, as Arms, Feet, &c. and fancy to themselves such a mangled Body as *Aeneas* in *Virgil* saw *Deiphobus* have.

— *Lacerum crudeliter ora,
Ora manusq; ambas, populataq; tempora raptis
Auribus, & truncas inhonesto vulnere nares.*

Some supposing themselves to be dead, refuse to eat. Many think that Soldiers and Officers are ready to seize them and carry them to Prison; of which we have an elegant Example in the famous *Barclay, Argenid. l. 1. cap. 13.* (where he tells a Story of one *Heraleon*, who being notoriously famous at Court for his erroneous Fancying himself a Prince, fled away, and being apprehended was brought back again) but he perhaps endeavours more to be jocular than to speak the Truth. Many are afraid that the Earth will open and swallow them up. Some are intent upon Battles, Contentions, Quarrels, Studies, Prayers, or such other Employment and Course of Life as they have been conversant in, to which that of the Poet may very well be applied.

*Navita de ventis, de tauris narrat
arator,
Enumerat miles vulnere, Pastor
oves.*

And some that are awake, are not unlike to others in a Dream. But to be short, It is most true which *Willis* observes, That it would be a miraculous and almost endless Toil,

to reckon up the several mad Freaks and Whimfies of Melancholy People.

§. 5. Cause.

THE Ancients reckoned the Cause of this strange Disease to be the cold & dry Intemperature of the Brain, either naturally, or only accidentally so; but thought it to proceed for the most Part from a Melancholy Humor, viz. Black Choler, which they think is lodg'd, and abides in the Vessels of the Mesentery, from whence they think Vapors like a Cloud ascend into the Head, and so far obnubilate the Animal Spirits, as to make the Brain a meer Darknes. They assert likewise that the Blood grows adust, which causes Melancholy Vapors to mount up to the Head, like the Fumes that arise from the burning of wet or green Wood, as is usual in *Delirium's* caused by Fevers. But we will not spend our Time in confuting the palpable Errors of these obstinate and hair-brain'd Fellows, who are not capable of understanding better. *Helmont* has done it already: Neither does our Design permit us; for we allow every Sect its own Opinion, and willingly let them enjoy the Fruits of their Labour. But, to the Business in Hand. Amongst remote Causes they reckon, as others do, Sadness, Grief, Solitudes, Watchings, Preternatural Stoppage of the Terms and Hemorrhoids, whence they think malignant Vapors ascend into the Head. And it is wonderful to think how stily the *Galenists* (who tread in their Master's steps) assert, that nothing but Vapors offend the Head, even ascribing to them the airy Phan-

tasms which arise in Dreams. Thus a Hectoring conceited *Galenist* being askt by a Gentleman in my Presence, what was the Reason that he was every Night troubled with frightful Dreams, answered, That they proceeded from Vapors arising from the Spleen. Another of them at his Elbow said, No, they are caused by Vapors and Steams flying up from the Ventricle. But to omit these Trifles, The *Galenists* do accuse the ill Disposition of the Bladder, Spleen, Liver, Kidneys, and the other *Viscera*, in which they earnestly contend that too much melancholy Blood is generated.

§. 6.

NOW we come to the *Paracelsists*, who are something nearer the Mark. They say that this melancholy Humor has an Elementary Coldness and Dryness; but yet a considerable Acidity and Acrimony, not unlike the Spirit of *Sal Armoniac*. and that it has a Power of fermenting and dissolving even the hardest Bodies, and of concocting Meats, and procuring an Appetite. Neither do they limit this Humour, commonly the Cause of the Tragedy, to the Intemperature of the Spleen; but say that it is diffused through the whole Body, which whilst it seizes the Brain (whereby the Animal Spirits become either fiery, earthy, fixt or fuliginous) causes various *Delirium's*. They also assert that this Disease sometimes comes from the Sublimation of the Mercury. Also that it is sometimes Astral, not so much from an Entiry of Influence (as they call it) as from an Entiry of Nature and Poison. Some also of the same Class feign I know not what

what sort of terrestrial Juice and Tartar lodging in the Blood, and annoying the Brain.

§. 7.

THE renowned **Belmont** thinks the Cause lies out of the Brain in the *Præcordia*, and that it is dispersed about the Orifice of the Stomach. Furthermore he proves that Poisons, which have the Power of disordering the Imagination, do not primarily affect the Brain, but only the *Præcordia* and Stomach; for whatever goes into the Stomach, is perfectly changed and turned into another Essence before it stir at all from thence. Neither does the noble Author think that Cephalick Pills draw any thing from the Head, and that if they affect the Head, alter or help it, that it is from the *Præcordia*. Nor does he accuse the thick, dark, sharp Vapors, which the *Schools* have invented, but thinks that the disorders of the sensitive Soul occasion the Madness; For which reason he places the Soul in the Center of the Body, or in the midst of the *Parenchyma* of the Stomach, wherein he supposes it to reside, rather than in the Brain, that it may the better Communicate with the rest of the Members; as all soporiferous Diseases are by him called down right Madness, which he will have to arise from filthy, and, as it were, febrile Recrements. For the *Collegia* or Fraternities of Impurities (as he improperly expresses it) do presently invade the Monarchic State, so that they do forcibly imprint a strange Phancy in the sensitive Soul; as is plain in *Opium*, *Henbane*, &c. which Impurities en-

compassing the sensitive Soul in its Original *Viscus*, lay asleep its Intellectual Act, not being able to shine out clearly when it is so beset. And the same Author says, he has found many thus distemper'd, who have perceived the Intellectual Impressions in the lower Parts to begin to rise Confusedly upwards, and that they first fail'd in their Memory: And that therefore from hence may be gathered, that the Intellectual Faculty is feared a great way from the Head; just as the Parts that are remote from the Heart, are first of all sensible of the defect of Vital Influence. So that I have observ'd in *Delirium's*, that first of all there is a forgetting of things which we have formerly had an Impression of, instead of which arises a restless and constant Remembrance of one Particular Thing, which is like a repeated Dream, with troublesome Tossing and Pain, which is succeeded by Watching; to wit, when the former sleepy Impressions of the Brain have weaken'd the Memory, then there comes from the *Præcordia*, a waking Kind of Dream with a manifest *Delirium*. Neither, Continues he, is this *Delirium* accompanied with a Cessation of the Intellectual Power, as it is in an Apoplexy, dead Sleep, *Syncope*, &c. but it is a confus'd and incessant Propagation of the *Idea's* which being made in the *Præcordia* are darted upward. And seeing that in Health there is no Conception without *Idea's*, so must there needs also be mad *Idea's* or Impressions in a *Delirium*. And he afterwards tells us, that Madness often proceeds from Fear, Agony, Envy, Ambition, Covetousness, and such other Pertur-

bations of the Mind, which Mad *Idea's* arising from thence, have their Incentives of their Repetitions, Periods, and Intervals of Paroxysms or inexhaustible Supplies in the Spirit of the *Precordia*. And many other weighty Things doth he add, very necessary for the explaining the Cause of this Disease, but he is so obscure that I will rather choose to remit the Reader to the Author himself, than proceed any further.

§. 8.

WHIS in this Case blames the Indisposition of the Animal Spirits, which he supposes to be naturally transparent, fine and clear, but that in Melancholists they are obscure and cloudy, and that they therefore represent the Images of things shady and dark. Which Animal Spirits, thus affected, he usually compares to Chymical Liquors, and thinks they are like an acid Spirit, destill'd from Salt, Vinegar, and such other Things; and suspects that in these Melancholy Diseases, they have such a sharp Quality as fluid Salts have. For those Spirits by reason of their saline, and as it were pointed Particles, while they stream out from the very Middle of the Brain, do not so exactly observe the Tracks and Circles of their Expansion, but make themselves many new and unusual Cavities within the globous Substance of it; and from hence happen such strange, impertinent, and for the most Part absurd Thoughts and Meditations, as now and then Melancholy People have. He thinks the *Procatartetic* Cause of this Disease to be partly from the acceous Disposition of the Animal

Spirits, partly from the atrabilary Dyscrasy of the Blood.

§. 9.

NOW we come to *Sylbius*, who says expressly, that this Disease does not spare the very Functions of the Soul, and that besides confounding the simple Apprehension, that it disturbs the Operations of the Wit, takes away the Memory, and does so far distract as Continually to excite and dispose the Mind to Melancholy and Fear, and indeed with a kind of *Delirium*, sometimes more, sometimes less Considerable; and this he calls only *Melancholy*. But he gives it the Addition of *Hypochondriac* when the *Delirium* is accompanied with Fear, so that it cannot be smother'd any longer, but openly breaks out. And he says, that the *Hypochondriac* Melancholy differs from the other only in Degrees, blaming a vitious Effervescency, chiefly when the *Succus Pancreaticus*, becoming more acid and austere, and mixing with viscid Phlegm, disturbs the Animal Spirits; and this he commonly makes the Fund of all Calamities, and as great a Plague to the Body of Man, as *Cicero* makes *Caillin* to the City of Rome.

§. 10.

ARISTOTEL and his Followers say, that nothing is more equally distributed amongst Men, than the Soul, but that it is variously dispos'd, and exercises several Operations by Reason of its Organs. And that therefore many Things are ascribed to the Soul which ought to be imputed to the Indisposition of these. Likewise that for this Reason, that Man ought not to

be blamed who has bad Parts or an unhappy Memory. Which they prove from Infants, who have the same Soul then, as when they become old: All the Difference being, that in Infancy the Organs are unfit, tender and mucilaginous, and likewise the Brain and Nerves are so soft, that the Impressions made will not last, and therefore the *Idea's* cannot be distinctly perceived and carried to the *Glandula Pinealis*, until such Time as the Organs are more firm and strong, and then they begin to ratiocinate and to think more distinctly. In like Manner by reason of the same Organs being weakned in old Men, we find that their Wit, Memory and Sight is hurt and decayed, and even that they return to their former Infancy again; Which cannot be through the decay of the Soul or Mind, which is immutable, but because their Organs (I suppose the Brain) are so dried, that the Impressions cannot be rightly made, and therefore the Soul is not able to judge distinctly of them: whence comes that Saying, *If an old Man had a young Man's Eyes, he would See as a young Man does.* But the Parts of the Eyes being dried and changed in old Age, must necessarily Cause a Diminution of Sight. To come closer to the Business, As long as the Parts of our Machine are disposed according to the Laws of Nature, and the Filaments are gently and lightly struck upon, so long do we act according to those Laws. But when those Filaments are out of Order, and are beat too violently, then begins a *Delirium*; Just as an Instrument sounds melodiously when all its Strings are in order, and tuned according to Art; but if any one be indisposed or not

rightly Strung, then the whole Harmony is spoiled. They say too, that the tough, thick and seculent Intemperature of the Blood proceeding from a vitious Acid, does remotely contribute to this Malady; for by this Intemperature the Animal Spirits become darkned. Now to various Thoughts, are required Spirits variously disposed: Thus if they be too fine and subtil, the Judgment is extreamly weakned; if they do not move regularly, divers *Delirium's* follow upon it, with Laughter, Dancing, Thoughts of Venery, and other pleasant Conceits. But if the Animal Spirits be gross, then the Melancholists move slowly. And these Spirits having once got into the Passages or Tracks of the Brain, and reflected back, represent the same Image to the Mind; from whence they also think, that the Thing they have once conceived is always present with them. And therefore it is, that those that are Melancholy sometimes imagine they see the Devil in this or that Place, and this happens when the Animal Spirits, that are very gross and move slowly, light into those Tracks which were formerly made by the same Impression, as when the Image of the Devil has been presented to them with the Horns of a Bull, a Lyon's Breast and Tail, the Reflection from those Impressions upon the Soul through the Swiftnes of the Thought causes a Perception of all these things, and forms one *Idea*. They say that the Case is the same in such as have a Fever, who sometimes imagine that they see Flies and several Creatures before their Eyes; for the Animal Spirits are then so determin'd, as they were when those little Animals were

were really present, and so represent the same *Idea* to the Soul. And as in Dreams many things are presented to the Mind, by the falling of the Animal Spirits into those Tracks that were formerly made; so it is with melancholy Persons, who, while they are awake, are as if they were in a Dream.

§. II.

WE will now give our own Opinion, and steer our Course as even as we can between the two preceding ones. It is most certain that the Animal Spirits, being defiled by some sparks arising from a vitious Acid, do hereby become slow and gross, and creep at their pleasure through those Passages of the Brain they find the most open; which when they have once entered, by reason of their Gravity they cannot easily get out of, but, as if they were plunged in the Mire, are forced to stick there. Hence it must needs follow, that one and the same *Idea* must always be present. In like Manner, seeing that the Spirits do not flow into the rest of the *Viscera* as they ought to do, those *Viscera* must needs be destitute of their Volatil Ferment, and instead thereof have another strange, wild, vitious Acid, which lies and is increased sometimes in the Spleen; sometimes in the Stomach, sometimes in the Mesentery, sometimes in the *Pancreas*, and other Parts of the *Hypochondria*, or in some small Vessel. Many of our Countrymen take these *Viscera* to be the Parts affected, and strongly maintain, that the Cause of the Distemper lyes in them, whereas the Disease is rather produc'd by a super-abounding Acid. We confess the Spleen is not to be altoge-

ther excused, because the Animal Spirits ought to pass through its many Nerves, which Spirits when they are vitiated, and become dull and unactive, the ferment of the Spleen must needs be spoiled. A false Imagination concerning any thing may also be the Cause of Melancholy, and hence comes a deprav'd Judgment, when the Soul thinks she perceives Causes out of the Body, which are within it, as when a poor Man imagins himself a King, he does really at that time perceive in himself the *Idea* of a King, but there's a wrong Application in that he does therefore think himself to be so. Thus, as in a good and healthful state of Body, the *Idea* of a King by a particular Motion of the Spirits, being represented to the Mind, makes it judge and perceive that it doth really see a King; so likewise in a morbid state, if such a Motion of the Spirits arise, it also Judges, either that it sees, or, is a King: which motion may happen when we are very solicitous for any thing, and have it always before our Eyes: for that Attention, raises a peculiar Undulation of the Spirits in the Brain, and so carries it through all the Nerves, by which Disorders the Fermentations of the Spirits in the Blood are spoiled, and that Blood again produces worse Spirits, and so the Thoughts are depraved.

All the *Phænomena* of this Distemper may be well explain'd by the Animal Spirits, which naturally and in a healthful Body are bright, brisk, and enlighten all the parts thereof; but if they be slow, lazy, and unactive, and inclining to an Acidity, and do not enlighten and so speedily pass through the whole Frame of the Brain as formerly,

merly, but rising up in the middle are furiously and blindly carry'd into the next Pores and Passages; then the Melancholick Person walks sad and heavy, imagining and speaking many absurd and ridiculous things. And in whatsoever Passage of the Brain these slow and lazy Spirits are, they are wont to stick there because of their Grossness, which is the Reason that an *Idea* once conceived is not easily obliterated, but the same Object continues present to the Mind, and the affected Person continues fixt upon some Trifle to the neglect of his more weighty Concerns. If any one fancy himself a King, a Prince, a Cock, a Lion, &c. he must necessarily imitate their Gestures, because the Spirits being dull and sluggish, are only intent upon making out that thing, which they have once feigned; and therefore he that thinks himself a Dog, will forthwith bark and imitate a Dog, which Symptoms I have observed by the taking a Philtre. And so of the rest.

§. 12. *Prognostick.*

AS to the *Prognostick* of this Disease, it is usually Chronical, and very hard to be cured, and may well be call'd the *Opprobrium Medicorum*, or Disgrace of Physicians, when so many Medicines are usually given without Effect. For the *Viscera*, the Shop where Fermentation is made, by reason of the slothfulness of the Animal Spirits, are almost defrauded of all their natural Ferment, the restitution of which is so difficult, that a considerable time is requir'd for the effecting of it. The greater Part of the Animal Spirits are often also lodg'd in the Pores of the Brain,

and the other few that are left become furious, from whence proceeds an Epilepsy or Convulsion. And sometimes the Passages of the Spirits are quite shut up, upon which happens an Apoplexy; but if one Passage only to the outward Parts be obstructed, thence comes a Palsy. Melancholy of a long standing, sometimes turns to Stupidity, when the Animal Spirits have block'd up all the Passages, and cannot extricate themselves. Again, sometimes this Disease turns to Madness, through the Inflammation of the Animal Spirits, which run thorow unusual Tracks and By-Paths, and cause those Symptoms which are so common in mad Men. The Spring contributes much to Melancholy, as making new Fermentations in the Blood. Autumn also does the same, because in Summer the Blood is despirited, and therefore, because of that and the ensuing Cold in Autumn, becomes thicker. It is much the same case, when melancholy Persons have drunk too much Wine; for when the Blood is brisk and spirituous with Wine, they are very merry, but when those Spirits are gon off, and they left to themselves, they grow Melancholy again.

§. 13. *Dietetic Cure.*

AS to the *Dietetic Cure*; Let the Air be clear and temperate, by which the Animal Spirits are rendred lightsom and brisk; and therefore it is that those that live in such an Air are merry and chearful, but become sadder than ordinary, and find a lassitude on themselves in that which is thick, cloudy, and foggy. For when the

Air

Air is clear, the subtil Matter is let in, in greater Quantities, by which subtil Matter the Animal Spirits are cheared; but if the Air be thick, the Spirits are gross and cloudy too, and less fit to offer any *Idea* to the Mind, to which, brisk, lively, lightfom, volatil and active Spirits are requir'd. Now when these gross Spirits have once took up their Stations in the Brain, they cannot well pass another Way, because of their Grossness; and this is the Reason that melancholy Persons commonly think only upon one thing, and always harp on the same string; For those dull Spirits continually keep the same seat and *Idea*, and therefore it is that those People are seldom Melancholy, who live in a subtle warm Air, as we may observe amongst the *French*. But the *Beotians*, who live in a thick Air, are heavy, slow, and dull, which occasion'd that of the Poet,

Beotum crasso jurares aëre natum.

And we may observe the same in the *Germans*, who live in a cold thick Air; as also that they are more obnoxious to these Diseases than other Nations who live in a hot and subtle Air.

Let the *Meat* and *Drink* be of good Nourishment and temperate, as Hens, Mutton, Veal, Beef-broth, potch'd Eggs, and other such Meats of easie digestion. On the other hand, Meats that are hard, and of less Nourishment, as Flesh and Fish salted and dry'd in the Smoak, and almost all sorts of Pulse; also Geese, Pork, Hare, Venison, &c. are to be avoided as dangerous; for such as the Chyle is, such is the Blood; such as the Blood is, such are the

Animal Spirits, which if they be generated of a thick viscous Blood, they cannot be brisk enough and fit to do their Duty. Thick, foggy Ale, neither well brewed nor fermented, must above all Things be avoided; neither is it good to drink too freely of strong Wines, as is evident from hence, That the poor Wretches being drunk are prone to run mad, and to cut their own Throats. On the contrary, in stead of ordinary Drink several appropriate Decoctions, especially Nitrous Mineral Waters, ought to be used; for hereby the Spirits are brought rightly to perform their several Offices, by the Help of other Spirits that assist 'em, and are gently called back to do their Work in their proper Sphere, out of which they had wandred.

Sleep and *Watching* must be moderate. For too much *Sleep* fixes the Animal Spirits deeper in the Passages of the Brain, and makes them more dull. And so of *Watching*, If it be immoderate, it wears and dissipates the few remaining Spirits.

Let the *Exercise* be moderate, especially after Supper. For that which is immoderate plainly dissipates the volatil and moveable Spirits. The same Moderation is to be used in *Rest*, for by too much *Rest* the Animal Spirits are so fixt in the Brain, that they cannot be recalled to their wonted Offices.

Amongst the *Passions of the Mind*, Mirth and Jollity must be most of all sought after. Therefore merry Company, Musick, Hunting and other Recreations, are very proper in this Case. On the contrary, Cares, Grief and Sadness are mightily to be avoided; for the Animal Spirits

Spirits are hereby disturbed, and stopping about the globous Part of the Brain, excavate the Frame thereof, and do thereby often become the only Instruments of this sad Distemper.

As to *Evacuations* and *Retentions*, Let the Belly be kept loose, that whatever flows to the Intestins may be carried off; lest it should by its Staying there and simple Warmth, contract a putrefactive Ferment in the first Passages. If the Body be not naturally open, it must be procured by Art. Let the Terms, *Lochia*, or Child-bed-Purgations, and the accustomed Hemorrhoids be agreeable to Nature. For the Obstruction of these does very much defile the Animal Spirits; from whence it necessarily happens, that diverse sad Phantasms must needs be raised in the Brain.

§. 14. *Pharmaceutic Cure.*

WE now pass on, as our Method requires, from the *Dietetic* to the *Pharmaceutic* Part; for there is most hope of Recovery when both these are called in to Assistance. The *Ancients*, commonly call'd *Galenists*, order, if the Melancholy be universal, that is, in all the Veins of the Body, the *Vena Mediana* of the left Arm to be opened; or, if the Spleen only be obstructed by some Melancholy Humour, they cut the lower Vein of the Arm, which they call the *Lienaria*; and if they have been accustomed to have the Hemorrhoids, they open the Hemorrhoidal Veins about the *Anus*; but when Women have this Distemper by Reason of the Obstruction of their Courses, they use to provoke them by Venesection in the Foot,

and other Blood-evacuating Medicaments. When the Brain alone is distained with this vitious melancholick or atrabiliary Humour, especially when the Body is Plethorick, they open the *Vena Femoralis* of the right Arm, or the *Cephalica* of the left. After that they use *Preparers*, as Roots of Succory, Borrage, Capers, and Fennel; Penny-royal, Centaury the less, Raisins, &c.

After that they use *Evacuators*, as Clysters, Apozems and Pills. To concoct and carry off the Humor, they mix *Preparers* with *Purgers*; an Example of which, for the sake of young Physicians, upon the Credit of the *Galenists*, we will here set down.

Take of Baum, Betony, Borrage, Hops, Hyssop, Maiden-Hair of each an Handful, Roots of Succory, Borrage, Fennel, Barks of Capers of each three Drachms, Citrons, Leaves of Senna, *Epithymum* of each three Drachms, Seeds of Annise, wild Carrot, Fennel of each two Drachms, of Currans one Ounce; being bruised and cut, boil them in four Pints of Water, to which squeezed and strained add of the Juice of sowre and sweet Apples, Pomegranates of each half a Pint, of Fumitory, Borrage, Roses of each six Ounces, white Sugar half a Pound. Boil and clarify it with the White of an Egg, and make an Apozem. Of which give Morning and Evening from three to four Ounces at a Dose.

Their stronger Purgers are those they call *Melanagoga*, or such as expel black Choler. Such as are
Extra

Extract of black Hellebor, *Diafenna*, *Pilula Indæ*, *de Lapide Lazuli*. Amongst which they commend the following Infusion.

Take of black Hellebor prepared one Drachm, Leaves of *Senna* half a Drachm, Anise-Seeds one Scruple, Cinamon half a Scruple. Macerate them in six Ounces of Goats Whey, after that boil them, and to the Colature add of *Electuarium Diafenna* half an Ounce. Mix them. Or, Take of Lenitive Electuary, *Diacatholicon* of each half an Ounce. Dissolve them in Water of Fumitory, and let it be given warm in the Morning six Hours before Dinner.

And seeing that they think this melancholy Humor (which they take to be as tenacious as Pitch) cannot easily be carried away at once, they therefore often repeat their Purgers. But some days after they endeavour to recreate the Brain and Animal Spirits by *Strengtheners*. To which end they commend the following Medicin, and such like.

Take of Conserve of Bugloss, Baum, Fumitory of each half an Ounce, *Species Diamoschu dulcis*, of Pearls, *Diamargariton frigid.* of each half a Drachm, red Coral prepar'd one Scruple. With Syrup of Plums make a soft Electuary, of which let the Sick Person take the Quantity of a Nutmeg two Hours before Dinner.

In this Case also, especially if there be no Heat, they commend a Drachm of *Theriaca Andromachi* dissolv'd in Fumitory-Water or

some other destilled Water. And they advise also Cuppings, Ligatures, Frictions, Cauteries, and divers such like external Applications to avert the peccant Matter. With infinite other Things which it will be too tedious to relate.

§. 15.

Paracelsus wonderfully extols as a great Secret, both for preventing, and also for curing this Disease, the Flowers of Antimony, to be given twice, thrice or four Times in a Morning, in a small Quantity of Treacle, as Occasion requires. He commends likewise Tinctures of Metals, especially of *Luna* and *Mars*, as also the Tinctures of Emerald, Sapphire, Coral, &c. which he thinks are good if only hung about the Neck. But I will forbear to ransack any further the Books of the Paracelsists, seeing they are of Opinion that these already mentioned, do far exceed all others.

§. 16.

Helmout thinking that this Disease lies in the Stomach and about it, does therefore believe that it should be cured by Stomachics not Cephalics, so that the Argument brought to the contrary concerning Hellebor falls to the Ground; for he ascribes to it a peculiar Virtue for a mad Brain; not in that the intoxicating and hurtful Quality reaches the Head, but in that it exerts its Strength in the Stomach; for after it is thrown out of it, such a Contraction follows as is usual in the Colick, which is a Sign that its Virtue

Virtue is not carried into the Head, but other Members.

So that black Hellebor, in his Judgment, helps Madnes, because it eases the Spleen, and Fevers of the *Præcordia* of the Ancients, and so dispossesses the Enemy better than all other Vomits commonly known. This we must confess by the by, That as in other Places, so also in this *Helmont* is so very obscure, that the Reader may be in the same Condition with *Applan* the Grammarian, who would have rais'd the Ghost of *Homer* to ask him his Country and Parentage.

§. 17.

Willis, after his usual way, does very elegantly handle this Disease, the Substance of whose Opinion we will in short lay down. He has three primary Indications; First, the *Curatory*, which immediately respects the Disease, and its Conjunct Cause. Secondly, The *Preservatory*, which considers the Procatartic and Evident Causes. Thirdly, The *Vital*, which is concern'd in preserving the Strength.

As to the *Curatory*, Let the more fix'd or dejected Animal Spirits be volatiliz'd and corroborated, that afterwards they being the more freely expanded, may irradiate the whole Brain, that it may perform the several Acts of Imagination, Judgment, and of the other principal Faculties; and may so vigorously actuate the *Præcordia*, that the Blood being plentifully kindled, may be sent from thence through the whole Body without any stop or stay; which Spirits are best cured by Admonitions and cunning Management of the distem-

per'd Person. The Mind must also above all Things be free from that cursed Passion of Love, Sadness, Hatred, Fear, &c. Likewise he would not have melancholy People left alone, but those who take delight in serious Business, should be permitted some gentle Employment. But if, being seduced by Phantastic Illusions, they imagine prodigious Things of themselves, and firmly believe them, they are to be brought out of such Thoughts by some ingenious Trick: Many Examples of which Cures he says, may be found here and there amongst the Books of Practitioners.

The same Author tells us, That a new Melancholy is cured sometimes purely by well ordering and managing the Mind, and the Animal Spirits; but that one of a long standing, when the Animal Spirits have contracted a sharp Quality, and the Blood an atrabilary Dyscrasy, and when the Pores and Passages of the Brain are already of an ill Figure, is harder to be cured. But in all Sorts of Melancholy, whatever the Cause be, he thinks Blood-letting is very Efficacious; because when the adust and decay'd Blood is by degrees carry'd off, always better and more spirituous comes in its place. A Vein may be cut either in the Arm, or the Foot, or the *Salvatella*, if the Melancholy Person choose that before any other.

He says, the frequent opening of the Hemorrhoid Veins is of excellent Use, which, as the venerable *Hippocrates* observes, if they bleed of themselves, the Disease is thereby often cured.

As to *Evacuation*; He thinks it best to begin with it, because it removes

removes that which feeds the Distemper from the first Passages, and makes way for other Remedies. But he does not allow of Evacuators that are strong; because they do not take away the Cause, to wit, the Dyscrasy of the Blood, but rather encrease it, and do but more weaken the Animal Spirits which are already dejected. And he says, the Ancients prescrib'd Hellebor, because they knew not any other Purgers at that Time. At the Beginning of the Disease he also prescribes Vomits, as he does in other Cephalic Distempers; for by these the viscous Filth of the Stomach, that often oppresses the Mind, is carried off, which being discharg'd, the Animal Spirits can more freely and chearfully expand themselves. There are also many Times some heterogeneous Particles in the Gall-Bladder, *Ductus Pancreaticus*, and other Glandules of the Mesentery, which by Vomits, are prevented from getting into the Head. *Ex. gr.*

Take of *Oxymel simplex* one Ounce and an half, *Oxymel of Squills* an Ounce, *Syrup of Tabaco* two Drachms. Mix them for a Dose. Or, You may give a Decoction of the middle Bark of Elder, with one Drachm of Salt of Vitriol.

To those that are strong and sound, he gives an Infusion of *Crocus Metallorum*, also the Emerick Tartar of *Mynsicht*, and Sulphur of Antimony.

Amongst Catharticks he extols the following Apozem, to be took for some days.

Take of the Roots of *Polypody* of the Oak half an Ounce, *Epithymum* two Drachms, Leaves of *Senna* half an Ounce, *Tamarinds* six Drachms, *Coriander seed* three Drachms, *yellow Sanders* two Drachms. Boil them in fourteen Ounces of Spring Water, till four be consumed. Adding of *Agarick* two Drachms, *Rhubarb* two Drachms and an half. To the Colature clarified add of *Syrup. de Pomis purgant.* two Ounces. Mix them. Let the Sick Person take four Ounces of this once in three or four Days.

Amongst Pills, he commends *Pil. tartar. Quercetani*, or, *de Succino Cratonis* half a Drachm, *Resin of Jalap* six Grains, *Tartar vitriolated* half a Drachm, *Gum Ammoniac* dissolved in Water as much as is sufficient. Make four or five Pills to be taken going to Bed.

Amongst Powders, he prefers before all others that of *Diasenna*, and *Diaturbith* with *Rhubarb*, and he does sharply reprove the Ancients abusive Use of Purgers; who thought there went no more to the curing of this Distemper, than Purging away the *Atrabilary Humor*. But he lays more stress upon other Medicines; for he observes that *Melancholists* are always very ill after Purging, and that they seldom find any good thereby. And seeing he ascribes the Cause of this Distemper to the Dyscrasy of the Blood and Spirits, and ill Shape of the Brain, he puts altering and strengthening Remedies amongst the first Rank, and upon their Account sometimes uses Catharticks.

cks. His choice altering Medicines are these which follow.

Take of the Conserve of Clove-Gilly-Flowers, Borrage of each two Ounces and an half, Myrobalan Peels candied six Drachms, Coral prepared one Drachm and an half, Pearls half a Drachm, Ivory, Crabs Eyes of each one Drachm, Confection of Hyacinth two Drachms, Syrup of Coral or red Poppy as much as is sufficient. Make an Electuary, of which, let the Patient Evening and Morning take two Drachms, drinking upon it a Dose of the following Julap (or any other appropriate destill'd Water.) Or, Take Cowslip-Water, black Cherry-Water of each two Ounces, Bawm four Ounces, Sugar six Drachms. Mix them, and make a Julap.

Amongst *Alterers* he also reckons our Iron Spaw Waters, which are wont to chear Melancholy Persons extreemly. For if they be plentifully drunk, they wash away the Salino-sulphureous Tincture of the Blood, and destroy its bad Ferments, cleanse the Bowels, and open Obstructions. Besides, by their binding Quality, they strengthen the *Viscera* that are too lax, and also close the Orifices of the Vessels, which open into the Brain, that an extraneous Matter may not be let into it along with the nervous Juice. And for this Reason, to wit, because they strengthen the Bowels, and shut up the Passages into the Brain, Vitriolic Preparations of Iron are usually given with great Success, both in Melancholy, and in a *Vertigo*. Which very words of the Author I thought fit

to set down here, because of the pretty Account he gives of the Use of Vitriolic Waters, instead of which he sometimes uses Chalybeate Remedies. Put one Ounce of the Filings of Steel in a Glass, with two Ounces of Juice of Oranges. Let it stand a whole Day, stirring it now and then. Pour upon it Water of Apples and White Wine of each one Pint, or of small Cyder two Pints. Let three Ounces of this be took twice in a Day. He usually also gives this following Steel-Powder.

Take Vitriol of *Mars*, Cream of Tartar, Crabs Eyes of each one Drachm. Mix them, and make a Powder to be divided into nine equal Parts, one of which may be took every Morning in some proper destilled Water.

He says Whey, provided it do not hurt the Stomach, being drunk plentifully for several days, does, like Iron Waters, wash away the salt and sulphureous Particles of the atrabiliary Blood, and that he has often found it successful. Whey of Goats Milk with *Epithymum* infused or boiled in it, is also commended by him.

He has an excellent Broth of the Decoction of a Chicken, with the Roots of Polypody, Chervil, Fennel, Butchers-Broom, Leaves of Spleen-Wort, Harts-Tongue, which the sick Person must take in the Morning with Vitriol of *Mars* from six to ten Grains, and in like Manner Salt of Wormwood and Cream of Tartar of each one Scruple.

He thinks the Juices both of Splenetic and Anticorbutic Herbs, drawn and distill'd, do wonderfully contribute to the correcting

of the atrabilary Dyscrasy of the Blood.

He says, That bathing in fresh Water in the Summer Time is very good, in that it washes out the Filth that is got into the Pores of the Flesh, and excellently procures an insensible Transpiration.

When the sick Persons cannot Sleep, or are decayed with long Watchings, and thereby become worse, he advises to have recourse to gentle Hypnoticks; as a Decoction of the Flowers of Primroses, Lettuce-Leaves, or destill'd Water of red Poppy or its Syrup. Furthermore, he thinks that Emulsions of the Seeds of white Poppy, Syrup of *Meconium*, and other things which are benign and cheer the Spirits, are very good.

§. 17.

WE now proceed to *Sylbius*, who, to correct and temper that acid Humor, commends all Aromatic Things, and such as abound with fixt and volatil Salt, because by them the Acid is usually concentr'd and weaken'd. Spirituous Things have also the same Effect, especially when joyn'd with Aromatics; as likewise fat Things, provided they be volatil and Aromatic; and also watery things, as Emulsions, all which do gently and efficaciously correct, curb, and amend that austere Humor, which for the most part gives the Disturbance in this Distemper. Nor are volatil Salts at all inferior to these in Virtue; and amongst the rest the Spirit of *Sal Armoniac* joyn'd with other Aromatics, especially its volatil oily Salt. Hydragogues carry off and abate this austere and acid Humor that troubles the Spirits,

which is in some Measure amended, but is too redundant; such as are the Roots, Barks, Leaves and Flowers of Dwarf-Elder and Elder, Seeds of *Carthamus*, Roots of *Meeboachan* and Jalap, *Gummi gutta*. As to the Dietic Cure, who ever is curious may consult the Author himself.

§. 18.

Cartes and his Followers, that they may incide, attenuate and volatilize the gross and feculent Blood, which produces Animal Spirits of the same Nature with it self, and that they may subdue every vitious Acid, that thereby such Animal Spirits as are finer, and fitter for the performing their several Operations may be generated, give Altering Medicines, which usually consist of much volatil Salt, such as all spirituous Things are: For seeing the *Phænomena* of this Disease depend for the most part upon a state of Fixity, and the conglomerated Particles of spirituous Bodies become dull by hard rubbing one against another, therefore they destil the Juices of Bettony, Scurvy-Grass, Brook-Lime, Chickweed, and such like. And because a tough and clammy Matter often offends, therefore they frequently prescribe the use of Mineral Waters which are impregnated with Iron, Vitriol, and Salts, by which the glutinous Quality in the Blood is corrected; for those Metallic Parts can pervade the straitest Passages and Pipes of the Body, and dissolve those viscid Humors, that obstruct them.

Preparations of Iron do mightily help to correct and destroy this Acidity in the Blood; especially Vitriol

Vitriol of *Mars*; for if they be taken inwardly, the vitious Acid gets into them, and so a third thing is produced, and the Acid is quite soak'd up. The *Cartesians* mightily commend Vomits to carry off that *Mucus*, which often lies in the first Passages, and sticks usually to the Coats of the Stomach, and hinders the Fermentation; for by shaking this *Mucus*, they easily tear it off, and throw it out. Others think Antimoniacs bear away the Bell; as the Emetic Tartar of *Mynsicht* given from two to four Grains. And they commend Sulphur of Antimony, which Preparation *Willis* hath. Amongst other Purgers, they prescribe Extract of black Hellebor, to be given to the Quantity of a Drachm. To strengthen the Brain and gently bind its Pores that are become too lax, they magnifie the Tincture of *Lapis Lazuli*, Coral, Silver, and the like, all which it would be too tedious here to repeat.

§. 19.

Our own Method, in short, of curing this Disease, is, to rouze up and chear the Animal Spirits, that are quite dejected and depressed by acid, sharp, and pointed Particles, and to cast out those slow and dull Spirits which are lodg'd in the Pores of the Brain, that are taken up with other *Idea's*.

Our Way of Cure is to breath a Vein in the lower Part of the Body, and let out the thick Blood. After that we think our greatest Care ought to be to correct that clammy Acid, which disturbs the Animal Spirits, that thereby they may be put upon their respective Offices;

And this is to be done with *Alkali's* both fix'd and volatil; but the volatil are much the best, being very fit both for absorbing the Acid and dulling its Points. And this is the Reason why volatil Salts, which correct the gross and feculent Blood, are found so advantageous to melancholy People. But seeing the Particles of the Acids are so various as to be sometimes edg'd like Swords, or Knives, sometimes pointed like Pins, or Needles, &c. therefore there ought to be divers Antiacids or Remedies against them; and hence it is that in this Distemper the Medicines are so often chang'd. To subdue this viscid Acid which sometimes is seated about the *Hypochondria*, Mesentery, Milt, &c. We commend Myrrh, and *Tinctura salutis*, which is prepared of it; for this removes all corruptive Sowreness, and by its Balsamic Virtue expels any Putrefaction. To this we do not think our *Elixir Polychreston* inferiour, which is prepared of Myrrh, Aloes, and Saffron, with the Spirit of Wine tartarified, and Oil of Tartar per Deliquium; for it has been try'd a thousand times with Success. Earthy and fix'd *Alkali's*, such as are, Crabs-Eyes, Pearls, burnt Harts-Horn, Coral, &c. as they drive away and destroy the foreign Acid, will be serviceable. Vitriol of *Mars* is of great Virtue. The following Prescript is very potent in expelling this inimical Acid.

Take of Cream of Tartar 1 drachm,
Vitriol of *Mars*, Crabs-Eyes finely
powdred of each one Scruple,
Pearls half a Scruple. Mix
them, and make our absorbing
Powder.

The following Remedies are of the same Nature, but something stronger, as *Elixir Proprietatis* of *Paracelsus*, Tincture of Castor, Amber, &c. We give you this Prescript.

Take of the Spirit of *Sal Armoniac* half a Drachm, *Spiritus Carminat.* one Drachm and a half, Tincture of Castor, Cinamon of each a Scruple, of *Mars* half a Drachm. Mix them, and give twenty Drops at a Time.

Tincture of *Mars* prepar'd of the Juice of *Borsdorian* Apples, may be given in a proper Vehicle, as some destill'd Water, &c.

We cannot forbear reproving many Practitioners of our Times, who think to correct this vitious Acid with their opening Syrups, and other sweet Things, when they rather do hurt with them; which the dainty and nice People would omit, if they did consider, that they do not thereby dulcifie the Blood, but rather encrease its Acrimony. *Piso's* Observation makes the case clear beyond Dispute, where he tells us, That the Juice which Sugar is made of, when it is out of the Cane, turns sowre in a very little time. But all volatil acids are good in this Case. Amongst the volatil acid Spirits *Tachenius* reckons the alcalifated Spirit of Wine, which is made of the common Spirit of Wine in a Copper Still, without any Addition either of Ashes of Liquid Tartar, or common Salt, as it is wont to be made by some. The tartarified Spirit of Wine prepar'd as follows, does Wonders in this and other Distempers. Expose to the Air, when the Season is extream cold, some rich Wine in a convenient Vessel, to be frozen, make a

Hole with a Stick in the Ice, and so pour forth the Liquor that is not congeal'd into another Vessel, which must be set to freez again. This do till the Liquor be condens'd, and you will have this admirable tartarified Spirit of Wine.

Sugar is so far from having a true sweetness, that it dissolves even Antimony it self, with which if it be mixt, and leisurely destill'd for three days together, yields the sugar'd Oil of Antimony, or an acid Spirit, very good for Burns. We also find good Success with the sugar'd Tincture of Coral, when Coral is calcin'd with Sugar.

When the Enemy is subdued, it is to be cast out of the Body, which, seeing that it often exercises its Tyranny in the Stomach, Guts, *Ductum Pancreaticus*, and other Places, must be expell'd thence by Emetics, as Emetic Tartar, our own Emetic Wine, &c.

Take of Antimony prepared half an Ounce, *Cassia Lignea* three Drachms, the best Rhubarb two Drachms and an half, *Calamus Aromaticus* one Drachm, Ginger, Galangal of each half a Drachm, Cloves a Scruple, Cinamon half a Drachm, white Sugar an Ounce, Rhenish Wine sixteen Ounces. Let the Dose be from 2 Drachms to half an Ounce.

We commend Antimoniates in this Disease above all other Things, because they mightily dissolve, and make fluid the Humors, and cause a kind of Political Cure: For whilst they very much tincture and corrupt the Humor, so that the Excrements appear green, the Patient seeing them of that colour, thinks

all the vicious Matter is carried off, and thereby his melancholy Fancies and Imaginations cease. These Emetic and Cathartic Medicines must be pretty strong, or else we do not think they can irritate the sensible Parts to such a Spasmodic Contraction, as to shake off that clammy, glutinous Matter, which often sticks to the Sides of the Stomach; to which end you may give this which follows.

Take of the Juice of the middle Bark of Elder an Ounce and an half, Salt of Vitriol half a Scruple, Syrup of Fumitory one Ounce. Mix them.

Amongst Specifics is reckon'd the Extract of Hellebor, given to the Quantity of half a Drachm, especially corrected with the Spirit of Vitriol: He that does not like this Extract may have a gentler in its Room, as the Extract of Citrons to four Scruples, or an Infusion of the Leaves of *Senna*, and Rhubarb, with Salt of Tartar, or a Decoction of Raisins with Leaves of *Senna*, a Pint and an half for several Doses; or the following Pills, which yet are not so proper for dry Constitutions.

Take *Extractum diacatholicon* half a Drachm, Magistery of *Luna* half a Scruple. Mix them, and make Pills to be took at Night.

We do also with good Success often give several Clysters of Carminatives that qualifie the Acidity, and at the same Time loosen the Body, and make the *Mucus* fluid. There is a Specific virtue in Antimony against Melancholy, and no-

thing so much purges it, as Antimony does. We may use Infusions and Medicated Wines. Purgers are best infus'd in Whey, or its Water, or in Water of Apples, with *May Dew*, and distill'd. After Purging we must proceed to Specific Alterers, which rouse up, and set the Animal Spirits at work. To this End we use to mix Steel-Medicines with the Volatils above commended.

Take of Spirit of *Sal Armoniacæ* with Amber half a Drachm, *Spiritus Carminat.* two Drachms, Tincture of Castor, Cinamon of each one Scruple, of *Mars* half a Drachm, Water of Fumitory, Centaury the less of each two Ounces, Syrup of Cinamon half an Ounce. Mix them, and give them in a Glass.

The Essence of Fumitory, and its Juice may be taken for some days in Whey; for Fumitory will not admit of long boiling, because of its volatil Salt.

The Antimoniatic Tincture of Tartar, the Essence of Steel, the simple Tincture of Tartar, &c. are prefer'd before all other Alterers.

Several Distillations of Juices, Whey, and such like, are proper; especially Iron-Waters which may be artificially prepared of Steel and *Clyssus*, of which see *Schroder*. As to Mineral Waters we chiefly commend those of *Schwalbac* in Germany, which upon many Trials have been found to do much good; for they correct the vicious Acid, cut the clammy Matter, humor and bridle the disorder'd Spirits, amend the faults of the Fermentation, and are often a present Remedy. For no one doubts that

Sickness as well as Health, does either immediately or mediately depend on the Fermentation of the Blood. Camphore is better than *Opium*, because it has more subtle Parts, and sooner flies away. If it be suspected that the Patient has had a Philtre given him, let him, after a Vomit, take Powder of a Secundine with Treacle, also the Magistery of Mans Scull, and the Electuary of *Hartman*.

As to the Chirurgic Part we commend, with the famous *Ettmullerus*, the Infusion of several volatil and other Liquors; but seeing that this excellent Man has discoursed copiously upon this Subject in his Disputation concerning *Insufory Surgery*, we refer the curious Reader thither, that we

may not be tedious. To which we over and above add this one Instance, That we, with good success, once infus'd Tincture of *Mars* several times into the Veins of a certain Man, who was very Melancholy. Yet I know but few, if any, that have been so curious, or that durst for fear of Censure, make Tryal of it.

We have often advised the opening of the Hemorrhoids and Arteries of the Temples; as also the Application of Cauteries, with great Success; for bad Blood is always succeeded by better from the Chyle: But there must ever in this Case regard be had to the Patients Strength, and other Circumstances.

CHAP.

CHAP. IV.

Of Madness.

§. I. Definition.

MAdness (by the Latines call'd *Furor* or *Insania*) is commonly defin'd; A hot Distemper arising in the Substance of the Brain, without a Fever, by which the Imagination and Reason is hurt, the Memory many times being unconcerned. We had rather define it thus; A *Delirium* with an extraordinary Wildness, and Alienation of Mind, without a Fever, caused by the Extravagation and irregular Motion of the enflamed Animal Spirits. These Diseases, Phrenzy, Melancholy, and Madness are near akin, in all which the Reason is disturb'd.

§. 2. Difference.

They differ thus; a Phrenzy has always a burning Fever along with it. In Melancholy and Madness the Ratiocination is affected, and the Patient speaks, acts, and imagines absurd, impertinent Things; but those that are mad, are far more turbulent in their Anger, Fierceness, Brawlings, Shoutings, and dreadful Looks, than melancholy Persons are; so that some define and describe Madness to be,

A strong Melancholy. Again, Melancholy is accompany'd with Fear and Sadness; but Madness is attended with Boldness, Raging, and without a Fever; yet they are changed one into another: For this Smoak will easily take Fire. Thus, the Animal Spirits in Melancholy, are as it were darkned with Smoak; in Madness they seem to be in a perfect Flame. Those that are mad are as desirous to bite as mad Dogs, and ravenous Wolves; and so this Distemper is call'd for that Reason, *Cynanthropia*, & *Lycanthropia*, *Dæmonium Caninum* and *Lupinum*. Nor is it any Wonder they do not spare others, when they, many Times, lay violent Hands upon themselves.

§. 3. Part affected.

The Part affected according to the Ancients, is the Brain, which they prove from the principal Functions of the Soul being hurt; and so they say the Brain in this case is affected, either Primarily, or by Consent. Some take the Soul it self for the Subject; for *Cartes* supposes two Substances in Man really distinct; one *Immaterial*; the other *Material* or *Organical*, which yet are both so closely, and

inimately joyn'd and united, that the Animal Spirits discharge all their Offices and Motions at the Command of the Soul: and these he thinks in this Case to be affected.

Willis takes the Animal Spirits, declining from their natural and genuine Temper, and becoming like Stygian Water, and also the Brain too for the Part affected.

But we imagine the Seat of this Calamity to be all the Pores of the Brain, in which *Idea's* are usually formed, and the Spirits are lodg'd.

§. 4. Signs.

Those that are taken with this Disease seem to be as mad as wild Beasts, nor do they differ much from them; for they fly upon every Body they meet, and wound them, as did those two in Sacred Scripture (*Matth. 8. 28, 29.*) not so much as sparing their Parents. Sometimes again they become mild, but are still intractable, talkative, singing, jumping, strangely tossing their Bodies, and always look surly, and haughtily, fearlessly, and impudently. But the common Symptoms, which attend all mad Men, are, constant Watching, and a Prodigious Herculean Strength, which whoever tries it will be to his cost. They can endure also the greatest Cold, Hunger, and Stripes without any sensible Harm. They swear, shout, and are always playing apish Tricks, often pulling off their own Hair, tearing their Cloths, breaking their Windows and Coffers. They are strong and never tired out, and are always muttering something to themselves of

great Things, as Contentions, Fire, &c. Sometimes they are merry, sometimes sad, sometimes fearful where no Fear is. Becoming of a sudden, hasty, angry, and boisterous, they break their Chains and Fetters, and beat to pieces Walls and Doors; for tho they neither sleep Day nor Night, yet they are incredibly strong, by Reason of the fiery strength of the Animal Spirits, which darts through all the Pores. Hence also it is that they can endure the severest Cold without the least Concern, tho stark naked, as *Helmont* has observed in his Tract called *Demens Idea*, in these words: "It is peculiar to a mad Man, that although he lie stark naked all Night upon the bare Ground or Stones, yet he is not frozen, nor are his Limbs mortified with the sharpest North Winds. A mad Man is not sensible of any Cold; because, as some think, the Soul is so busie within, that it does not attend to what is of less concern without, nor has any Regard to Cold, whereupon it does not value the Ease of the nervous little Fibres, so that they scarce perceive Hunger, Stripes and other Inconveniences. Sometimes they are so much in earnest that they bite, or strike, or some other Way abuse their Friends as they stand by them, and are as savage as wild Beasts. Their Eyes look stern, big, and attentive, and are always contriving some Mischief, because the Animal Spirits pass furiously through the Brain. And sometimes they are so mad, as to reproach and curse themselves, and then they must be fetter'd. Sometimes they have a Pain in their Head, and watch immoderately, by Reason of fiery Animal

Animal Spirits irradiating the whole Brain. Fear, Love, Ambition, Cares, Study, &c. are, for the most part, Fore-runners of Madness, according to *Helmont*, who says, Madness proceeds from Fear, Agony, Wrath, Envy, Ambition, Love, Study, Care, Shame, and other such like things. Sometimes they are prone to Venery, and are solicitous about Business that does not concern them. But we need not spend any more Time upon these Things, seeing that we have daily a thousand Examples before us.

§. 5. Cause.

THE Cause of Madness, according to the *Ancients*, that is, the *Galenists*, is, ill Humors, as adust Melancholy, yellow and burning hot Choler, and adust Blood, chang'd into the Nature of Melancholy. This Distemper, say they, sometimes comes from the hot Intemperature of the Brain; but if hot yellow Choler be the Cause, that then a wild kind of *Delirium* follows; so, that the Patients become desperate, and so strong that they are formidable. But if this Disease proceed from superfluity of hot and adust Blood, chang'd into both the sorts of Choler, flying violently into the Head, then they observe that the distemper'd Person expresses his Madness most by Laughing and Singing.

§. 6.

Paracelsus, c. 2. de *Morbis Amensium*, says, Madness proceeds from the three first Principles. And, l. 10. §. de *cap. advers. intern.* §. 3. he asserts, That Madness,

Phrenzy, and all the Species of Madness come from the Obstruction of the Part, by Heat or Cold dissolved or coagulated. And, l. 1. de *virib. Membrorum*, c. 3. he says, Where the Spirit of Life cannot reach, there a Disease is bred; to wit, If it is stopt, there arises Putrefaction, and Exulceration; for it dies in that Place. Also, c. 2. de *Morbis*, he makes two sorts of Madness; one which comes from Distillation, when the vapor lies in the Head; the other from Sublimation, when it is coagulated in the Head. And he tells us in the same Place, that it cannot well be understood, what is the first Occasion and Mine of this Distemper; but he guesses the Cause (in whatever Part of the Body it lie) to be the Mercury reverberated into *Calx*, and resolved into a most strong Water, which is mixt with the Spirit of Life, and enflames it. And he says, That that Water is so subtil, that it will not stay in the Bottom, but flies up as high as it can get; and as soon as it reaches the Brain, that it causes Madness, as *Petrus*, a Follower of *Paracelsus*, tells us in his *Nosologia Harmonica Dogmatica & Hermetica*.

§. 7.

THE Famous *Helmont* thinks all Madness arises from the blooming of conceptual strange Ideas, which do show themselves, just as the Mark of a Cherry or other Mole from the Mothers longing, grows green or red at the Season of the Fruits; and so these mad Ideas, that come from Perturbations, (as he expresses it) have in the Spirit of the *Præcordia*, their incentive Intervals of Returns and Periods; and

and that in Hypochondriacal Mad-
nesses, there is a certain Poison,
which causes either a furious or a
merry Distraction.

If we may be allowed the same
Liberty with *Helmont*, why may
not we feign a rustick Madness, that
in its drunken Fits makes all this
bustle, and causes a Disturbance in
the Spirits?

§. 8.

WE will now examine *Willis's* Opinion, who treat-
ing of the Cause of this Disease,
says, that it is occasion'd by the
Animal Spirits that degenerate
from their mild and benign Na-
ture, that is, from their saline Spi-
rit, and turn sharp, as if they did
participate of fluid salt and Arse-
nical Sulphur; which vitious Spi-
rits are bred of deprav'd, and nitro-
sulphureous Blood. He also thinks
that poisonous Ferments got into
the Blood or the nervous Juice,
may easily breed this Distemper,
whch he proves by the biting of a
mad Dog, or drinking of Poison.
He gives this Reason for Madmen's
daring Boldness; That their Ani-
mal Spirits are very fierce, and car-
ry the Soul, as it were, out of the
Limits of the Body. Their im-
mense Strength he explains thus;
That in their Blood and nervous
Juice, there are nitro-sulphureous
or other very sharp, or Strygian-
like Particles; whence it is that the
Animal Spirits are endued with an
Elastick or Explosive Force, and
far exceeding the natural. Their
enduring Cold, Heat, Stripes,
Watching, Fasting, &c. with-
out any sensible Hurt, is, in
this Author's Opinion, because of
the Strength and Fixedness of

their Spirits, and their unaptness to
fly away.

§. 9.

THE *Sylvians* in this Case ac-
cuse the Exandescence of the
Animal Spirits, caused for the most
Part by a vitious Effervescency. And
they ascribe all the Symptoms of
mad Men to a remote Cause, i. e.
the *Succus Pancreaticus* stagnating
and corrupted. Which *Sylvius*,
their Master, discourses more large-
ly of in his *Praxis*, *Cap. de*
Mania.

§. 10.

Artes and his Tribe argue,
that this wonderful Passion of
the Soul consists in the irregular
Motion of the hot Animal Spirits.
For, according to them, the Soul
is so long quiet, as the Motions in
the Body are gentle and without
Tumult; and this, say they, con-
sists in a gentle Fermentation of
the Blood. For so long as that
continues, the Spirits in the Brain
are equally poiz'd, but as soon as
a violent Motion, by some extra-
neous latent Ferment is brought
upon the Blood so dispos'd, as it
is in melancholy Persons, the Ani-
mal Spirits are carried with such
violence into the Brain, that they
do not obey the Soul: for as a
gentle and mild Motion of well
temper'd Spirits, usually causes
sedate, pleasant, wise, and calm
Thoughts: So on the other Hand,
hot and pricking Spirits too vehe-
mently moved, usually make a
man fierce, angry, bold, impu-
dent, &c. Thus do they suppose
the Animal Spirits of mad Men to
be dispos'd. The gross but fer-
mentable

mentable Blood, and which is violently moved by some occasional Cause, as Anger, Terror, &c. is reckon'd by them the remote Cause (for the *Cartesians* suppose in the Blood of mad Men, a most strong Ferment.) But a certain Ferment, consisting of irregular Particles, proceeding from some external Cause raising Passions in the Soul, is often carried violently towards the Brain, and opens the Pores of the little Arteries of the *Plexus Choroidæus* wider than usual. And then the Motion of the pleasant Animal Spirits, is taken away by the Afflux of these heterogeneous Particles, which Spirits being kindled they suppose to rove up and down the whole Brain, but more particularly about the *Glandula Pinealis*, which darting violently like a Thunderbolt into the Brain and Muscles, do perfectly withdraw the *Glandula* from the Jurisdiction of the Mind, which being thus fool'd by those head-strong Spirits, and denied all Command over the Body, can no longer govern the Attention; and from thence they derive all those disorderly Gestures, Quarrels, Brawlings, &c.

§. II.

Now let us give Our own Opinion; We confess that *Cartes* in his Discourse of the Passions, has very well explained the *Phænomena* of this Distemper, to wit, how Anger is caused, as, when a Man is evil spoken of: for when the Mind is intent upon that Impression, the Spirits, by the Motion of the Common Sensory, occasion'd by a certain agitation, are forced through the Tubes of the Nerves, into all those Members of

the Body that serve for Revenge. In like manner the Motions of the Blood and Humors circulating, whilst that they are moved by a strange Ferment, become swifter. But we will explain it as follows.

To which purpose we will measure out our Way betwixt the Qualities of *Hippocrates*, and *Democritus* his Salts, which act variously according to the diversity of their Figures. In this Distemper the Animal Spirits are enflamed, which being thus set on fire, like *Sampson's* Foxes, run through every little furrow of the Brain, and form all sorts of *Idea's*, especially those which were before conceived of Boldness, Madness, Burnings, Brawlings, &c. they also rush furiously into all the Parts of the Body, which they very much irradiate; and this is the reason why Madmen are so extraordinary strong, and can endure the sharpest Cold, and other Inconveniences. Amongst remote Causes we reckon the Blood, consisting of many fix'd and irregular Particles, because it administers Fuel to the enflamed Spirits; which if it acquire any acid volatil Ferment, it sets fire to the Animal Spirits. The Spirits in the Brain should be equally balanc'd; but as soon as they are put into any violent Motion, either by such Blood, or some wild bilious Sulphureous Ferment lurking in the Blood, then the Animal Spirits are set on fire. Poison and several other Things may bring this Distemper: Thus the German *Ephemerides An. 3.* tell us of a Country Fellow, who taking a nap under a Tree, when he awaked was raving mad, and so continued for the space of half a year,

but

but a vehement sneezing being raised by taking an Ounce of Tabaco, there came out a long hairy black Palmer Worm, after the voiding of which, he was perfectly well again. And the same *Ephemerides* take notice, that Madness has succeeded the Cure of malignant Small Pox. Likewise the Experienc'd *Ertmuller*, the famous Professor of *Lipsick*, gives a notable Relation in *Disp. de morfu Vipera*, That at *Torgavia*, a neighbouring Town, a Mad-woman (who, as 'twas imagin'd, became so by a Love-Potion) by biting the Officer near the Arm-Pits, who was going to secure her, gave him the same Distemper, in-somuch that the next day he was as mad as the Woman had been, but she grew better upon it. And I my self have known the Bite of one in Wrath, to have caused a Madness and an incurable Wound. For Cholera, when it is predominant (as we observed before) is often the Cause of this Distemper, provided as *Democritus* says to *Hippocrates*, that it move swiftly and Anger make it communicate its sharpness to the Animal Spirits: For it is observable, that angry Persons seldom abide in one place, are very hot, and in a great Chase, and if they bite with their Teeth, they leave Poison in the Part, as the above-named History testifies. In like manner this Madness may come from Fear, or a Desire of Revenge; as *Orestes* (in *Euripides*) after he had kill'd his Mother, was distracted, till he made Satisfaction for the Crime at *Diana's* Altar. And *Empedocles* being mad with Pride, leaped into flaming *Aëna*, according to that of *Horace*;

———*Deus immortalis haberi,
Dum cupit Empedocles, ardentem fri-
gidus Aënam
Insiliit.* ——

All the *Phænomena* of this Distemper, may easily be explain'd from what has been already said.

§. 12. Prognostick.

YOUNG and middle aged People are most obnoxious to this Distemper, nor are old Men altogether free. We knew a Couple of such Old Mad-men, of sixty years apiece, but of so very dry and meagre Constitutions and Textures, as that it might easily be guess'd that their Animal Spirits within them, were as hot as fire it self. That Madness, as *Hippocrates* says, *Sect. 6. Aph. 53.* is less dangerous, that is accompanied with Laughter, than with Seriousness; and the greater the Rashness is that attends it, the more dangerous it is. But when the Distemper has taken deep Root, it is hard to be cured. For the Impressions, which were formerly made in the Brain, being afterwards ras'd out, and as it were burnt up, cannot be recover'd again; because it is not possible to get out those Wrinkles, which are once firmly impress'd in it; as when any Impression is lightly made with a Needle upon Paper or Leather, in Time, and by rubbing the Paper, the Impression is quite obliterated; but if the Needle go very deep, and make holes, the Impression can never be got out.

A bad Stomach, and Ulcers in the Face, Anus, and Feet, are ill Signs. But if Sleep mitigate the
Delirium,

Delirium, it signifies Good, as *Hippocrates* testifies, *Seft. 2. Aph. 2.* Likewise if mad People have the *Varices* and Hemorrhoids, the Distemper is cured, *Seft. 6. Aph. 21.* Watchings of long Continuance are dangerous. This Disease easily turns to Melancholy and Folly, for a Time, till new incentive Ferments enflame the Animal Spirits; and this happens two Ways, either from the Soul, or from the Body. The Soul makes the most tiresome and ingrateful Things easie to it in Continuance of Time, and contemplates them with less Concern. From the Body thus: One sort of Madness is caus'd by a certain Ferment, which at last is spent; yet cannot be so consum'd but some Reliques must be left in the Solid Parts, which by some external Cause may be set afoot again, and so the Madness returns. If it be inveterate or hereditary, or caus'd by the Bite of a mad Dog or other mad Creature, it is seldom, for the Cause above-said, perfectly cur'd; for the old Impressions of the Brain being once worn out, and the Spirits inflam'd, and degenerating from their genuine Temper, are seldom reduc'd to their former State; Of which we have treated more largely above, especially where we gave the Causes of this miserable Distemper.

S. 13. Dietetic Cure.

THe Dietetic Cure consists in the due Observation of the Six *Non-Naturals*. Let the Air be temperate, rather inclining to Cold and Moistness; but carefully avoid an Air too hot and impure: And decline going abroad in the Spring; for the great *Hippocrates*, *Seft. 3.*

Aph. 20. says, Madness, Fury, and melancholy Diseases have their Birth in the Spring, when Beans are in Flower, according to the Verse,

Cum faba florescit Stultorum insania crescit.

It may happen at any other Time, but especially in the Dog-Days, and some I have seen go mad in Winter. For as the Sea, through the violence of Tempests, swells up from the Bottom, and raises its proud Billows; so likewise when the Winds are very boisterous, the Humors boil in the Body with a kind of Tide; which being carried into the Brain, and disturbing the Animal Spirits, raise confused Motions in the Soul, and cause Disquiet and Distraction. And this is the Reason that in tempestuous Weather there are so many Storms in the Passions, such a Difficulty in Speaking, such Anger in the Mind, such Moroseness in Conversation, &c.

Let their Meat be cooling and moistening, as Broth of Chickens, Partridges, Hens and Pullets that are stuff'd with cooling moistening Herbs, and such other Things. Some write (how well I know not) that Hogs Brains fry'd in Butter and eaten, are very good in this Case. Windy and hot Meats are very bad, because they may kindle the Animal Spirits, as Aromatics, sharp Things, Mustard, &c. Swines-Flesh, Meats hang'd, and dry'd in the Smoak, as also all leaven'd Things are found to be very hurtful.

Let their Drink be cooling, as Barly-Water, or Spaw-Waters, Decoction of the Herb Pimpernel. A Decoction of Swallows, with *Lapis Prunella* I have found good by Experience

perience; but let them abstain from all Sorts of Wine, for according to the Poet,

Vina gravant animos, faciuntq; furoribus aptos.

Wherefore rich Wines, Spirit of Wine, and other hot Cordial Waters, are by all means to be avoided: So that the Ancient Rite of the Heathens in drinking three Healths to the Honor of their Gods, is worth Observation. The first Bowl was to *Jupiter Olympius*; the second to the Hero's; the third to *Jupiter Sospitator*. Which were also of old called the Healths of the Sages. The first to their Healths; the second to their Friends; the third to their Rest. What was more than this they reckon'd Madness, and an Injury to their Healths. So we Physicians usually attribute the first Glass to quenching of the Thirst; the second to Pleasure; the third to Drunkenness; and the fourth to Madness. For as a loaded Ship in a great Storm, when the Pilot is asleep, or has lost its Rudder, cannot steer right; so he that has his Senses overwhelmed with Wine, and his Mind oppress'd, runs against the Rocks of Folly; which *Pythagoras* observing, said, That Drunkenness was the Exercise of Madness. Again he says, *apud Stob. Serm.* That drunken Men, as well as old Men, become twice Children. *Chrysostom* called Drunkenness, a running out of ones Wits. Yea, it must needs be, that *Violentia* turns into *Violentia*.

Let their Exercise be moderate; therefore Running, Leaping, &c. must be avoided.

More than ordinary Sleep is very convenient in this Case, which

must be provoked by inward and outward refrigerating and cooling Medicaments. For (according to *Hippocrates*) so long as the Brain is quiet, so long a Man is in his Wits. Long Watchings are hurtful.

As to *Excretion* and *Retention*, The Belly is to be kept loose. So, if the Hemorrhoids and Courses be stoppt, they must by all means be forced; and likewise of *Fistula's* and *Ulcers*, if they be stoppt, they must be made to flow again.

The *Mind* must be kept free from all Passions. Let Friends be admitted, but Strangers, and such as the sick Person either did or does hate, be kept from him: According to *Us* and *Helmont*, Fear, Agony, Envy, Ambition, Anger, Love, Study, Care, Shame, Covetousness, and other such like Perturbations must be avoided, all which serve to enflame the Blood, and enrage the Animal Spirits.

§. 14. *Pharmaceutic Cure.*

WE now come to the *Pharmaceutic Cure*. The Ancient Practitioners, especially the *Galenists*, in the Beginning of this Distemper, use Preparatives, such as are Syrup of Violets, Fumitory, Sorrel, Bugloss, Succory with Rhubarb, &c. Water of Violets, Hops, Water-Lily, Succory, Endive, Sorrel. After these they proceed to Evacuators. And first they order Blood-letting, if the Madness comes from a superfluity of very hot Blood, as they call it; which they do also if it proceed from adust Choler, without a Plenitude. And they use these following Purgers; Syrup of Roses, *Confectio Hamech*, *Diasenna*, *Hiera Picra*, *Pilula Indæ*, de *Lapide*

pide Armeno, &c. Syrup of Violets; Leaves of Succory, Fumitory; Flowers of Water-Lily, the greater cold Seeds, Liquorice, which may be given sometimes with, sometimes without Purgers, divers Apozems and Drinks or Decoctions. Afterward also for evacuating they make Use of *Manna*, *Cassia*, *Senna*, black Hellebor, &c. Nor do they condemn Clysters of the Leaves of Violets, Lettuce, Marsh-Mallows, Mallows, Oil of Violets, of Water Lily, &c. After this these Practitioners fly to Averters and Repellers, applying Leeches to the fore Part of the Head, and to any other Part of it outwardly. The Hemorrhoids and Courses are to be provoked.

To this End they embrocate the Head with Oil of Roses, Juice of Knot-Grass and Vinegar, &c. or apply in a Rag to the fore-Part of the Head, and often change them, Epithems made of these Things; and order the Head to be fomented with a Decoction of the Flowers of *Stachas*, Chamomil, &c.

To strengthen the Brain and amend its Intemperature, they commend *Species Diamargariton frigid.* *Electuarium de Gemmis*, *Diatrion Santalon*. Conserve of Bugloss, Water-Lily, Borrage, Violets, and such other. To the Liver they apply Epithems of the Water of Endive, Roses, Sorrel, Camphore, Spikenard, &c. To the Heart Water of Bugloss, Roses, Water-Lily, Vinegar, *Species Diamargariton frigid.* They highly extol a Bath of Water, wherein has been boiled Flowers of Chamomil, Melilot; Leaves of Violets, Lettuce, Willow. Also they advise to anoint the Back-bone with Oil of Water-

Lilies, Sweet Almonds, Roses, Violets, &c. When the Case is almost desperate they boldly apply Cauteries to the Nape of the Neck.

§. 15.

Paracelsus thinks he has found better Remedies than those of the *Galenists*. And says *l. de Morb. Ament. c. 2.* that in the Cure of this Distemper we must have respect to two Things, to *refrigerate* and *coagulate* the peccant Matter. Amongst refrigerating and cooling Things, he reckons Narcoticks and Anodynes, the most excellent of which are his *Laudanum opiatum*, the Quintessence of Mandrake, Poppy, Henbane. But he thinks that these following are specifically good, the Quintessence or Spirit of *Saturn*, *Mars* and *Mercury*, the Solution of Crystal, Extract of Camphore, Gold, and the true *Aurum Potabile*, the Liquors of *Luna*, *Sapphire* and *Musk*, as he has it, *lib. 2. de Virib. Membr. c. 4.* and there he very much cries up the hidden Virtues of *Gilla*, which he would have distilled in the Wine of Life, and to circulate till it cannot touch the Bottom, and to be given in Malmsey: This many of the *Paracelsists* say, is Nitre distill'd with the alcalisated and rectified Spirit of Wine, which they will have to be afterwards circulated until it become altogether spiritual and volatil. Some of them think it to be a Preparation of Vitriol, which *Paracelsus* in another Place, where he makes it a specifick Cephalick, calls *Gilla* or *Grilla*.

§. 16.

Helmout treading in *Paracelsus's* Foot-steps, commends both Narcoticks and Anodynes in this Distemper, and mightily extols the Philosophic Sulphur of Vitriol, calling it Narcotic, soporiferous and sweeter than Honey; therefore he says, it is sovereign in all Alienations of Mind, and Phancies and Passions of the *Hypochondria*; for all Kinds of Narcoticks, according to him, keep the Spleen from sending such dismal *Chimera's* to the Brain. He declares black Hellebor to be very useful, because it alleviates the Uneasiness which numerous and troublesom Phantasms give the Patient. Amongst other Things he commends dipping over head in cold Water, by which he has seen many cur'd.

§. 17.

Wallis says, nothing is more necessary in this Case, than to keep the distracted Person in awe, and commends Severity of Discipline, as Threatnings, Bands, Stripes, and other such like Courses; for that Mad men may be better cur'd by beating and tormenting them in a close Room, than by Medicaments. He also advises Bleeding, Vomiting, and now and then strong Catharticks. He would have a Vein to be opened, sometimes in the Arm, sometimes in the Neck, sometimes in the Forehead, sometimes in the Foot, and this to be repeated often; for by that means he thinks that the Loftiness of the Mind is best suppress'd, and that always other calmer Blood is bred of the Chyle, and its Dyscr-

cy amended. His Emeticks in this Distemper are these:

Take of Sulphur of Antimony from eight to ten Grains, Cream of Tartar half a Scruple. Mix them. Or, Take of *Mercurius Vita* two Grains, Conserve of Red-Roses a Drachm. Mix them. Or, Take of Emetick Tartar from two to three Grains, Salt of Wormwood two Grains. Mix them.

He wonderfully crys up *Aurum Vita*, as also Mercurial Medicines, forasmuch as they are wont to work by Vomit and Stool; also by Sweat, Urin and Salivation. For this Author has seen some Mad men perfectly cured by Salivation. Amongst Purgatives he commends this which follows.

Take Extract of black Hellebor, *Calomelanos*, or, *Mercurius dulcis* of each one Scruple. Make a Bolus, &c.

He also highly esteems Alteratives in this Distemper. *Ex. gr.*

Take of Mineral Crystal two Ounces, prepar'd Pearls a Drachm. and a half, Sugar-Candy two Ounces and a half, Camphore half a Scruple. Beat all these together and make a very fine Powder. Of which let the Sick Person often take from one to two Drachms, in small Beer or Spring-Water, and let him drink so often as he pleases, for his ordinary Drink, Whey, especially of Goats Milk, alter'd with the Flowers of Violets, Red-Roses, Water-Lilies.

He also commends the often taking of cooling Electuaries, Juleps, and destill'd Waters. For a Specific in this Distemper, he mightily crys up the Decoction of Purple-flower'd Pimpernel, also the Tops of St. Johns-wort.

If the Madness come from the Bite of venomous or mad Beasts, he commends Infusion of Apples, several Kinds of Tinctures and Emulsions.

In every Sort of Madness he advises Cupping with Scarification, as also Vesicatories and Cauteries both actual and potential. He does not easily admit of Arteriotomy, Trepaning and Mercurial Unguents, without Distinction of Persons and Cases.

He applies Lambs-Lungs reeking hot, and other hot comfortable Things, to the fore-part of the Head when the Hair is shav'd off, be the Patient never so unwilling to permit it. Whoever would be instructed further, may consult the Author himself.

§. 18.

Sylbius, as well as the rest, commends Venesections, Vomitories, aqueous Alteratives, as Emulsions, Juleps, Whey, Mineral Waters, and such like Things: neither does he discommend *Lapis Prunella*. He mightily extols Vesicatories, and other external refrigerating Applications, as also Anodynes taken inwardly, and applied outwardly, as *Laudanum Opiatum*, *Cydoniatum*, &c. He affirms that cooling Clysters are of great Use. But I am unwilling to spend Time in being more accurate.

§. 19.

Cartes and his Followers say, That to diminish and stop the Motion of the Blood, Venesection, and that to a good Quantity, if the Patient be strong enough, is very convenient. As also all ponderous things which by their Gravity stop the Blood in its swift Career. To this end they usually prescribe *Lapis Prunella*, *Saccharum Saturni*, *Lapides Cancrorum*, *Laudanum Opiatum*, *Sanguis Draconis*, &c. And they also commend the Decoctions of the Common Woods, in that by their hard and heavy Particles, they stop the Motion of the Blood, and by the stiffness of those Particles cut it, and take away the Obstructions, especially if some of the Pores of the Common Sensory be obstructed by gross Particles. They exclude all Chirurgic Operations whatever.

§. 20.

WE are now to deliver our own Opinion, which is, That the Animal Spirits being, as it were, all on fire, and darting themselves too furiously, and flashingly, must be extinguished, and brought to a gentle and regular Motion. This, Bleeding, often repeated, will effect, but it must be by a small Quantity at a Time, lest it cause a Dropsy, an Example of which I my self have known. Opiates are very proper in this Case, which presently compose the raging and boisterous Animal Spirits; but they must not be given immediately, nor in a large Dose; for it may fall out that the Spirits may be so exhausted by the

long continued Madnets, that if Narcoticks should be given, they would so enfeeble the Fermentations of the Blood; that Death would follow upon it. But we must first begin with Anodynes, as likewise with a very small Dose of Camphore instead of *Opium*, to stop the Motion of the Blood; for Camphore is so subtile that no Danger can arise from thence. If the Disease begin to respite, we commend the Use of Vomitories, to take away the remote Cause; to wit, to free the Blood from many fixt Particles, and to cast out other extraneous Ferments residing in the first Passages. For by the Use of these, the Blood is discharged of those excrementitious Parts. These Vomitories are chiefly Preparations of Antimony, as *Tartarus Emeticus*, *Aqua benedicta Rulandi*, Vomitory Sapa's, and other Things of this Nature. To those of a more nice Palate, white Vitriol may be given. Others cry up black Hellebore and its Extract. It is our Opinion that strong Purges ought, according to Rule, to be omitted, for that they do but more encrease the inordinate Motion of the Animal Spirits, and drive them deeper into the Pores of the Brain: For in such a furious Perturbation there is an impetuous Ebullition and Effervescency of the Blood, which also arises from the Force and Irradiation of the Animal Spirits, and from thence often proceeds too great a Rarefaction and Ebullition of the Blood. Poly-pody of the Oak many times does the Business in this Case. But, to bring the Blood to its due Fermentation all Chalybeat Medicines are convenient, for they stop the Motion of the raging Spirits, and the violent Fermentation of the Blood.

The Blood of the sluggish Ass, drawn from the Veins behind his Ears, has a singular and wonderful Virtue in destroying that volatill Acid. Of which *Michael* the famous Physician has given us this following Prescript.

Take a linen Cloth, and soak it a sufficient time in Asses Blood let out behind the Ears; put it in a convenient Quantity of Water of Pimpernel, and Flowers of St. Johns-wort, until the Water be tinged. Mix them and make a Potion for several Doses. With this Medicament, the aforesaid *Michael* avows that he cured one that was Mad in the Court of *Altenburgh*.

We are of Opinion that the Blood of a Dog, Hair, yea also of a fearful Man, are available in this Distemper; because there is in these Creatures a Terror, Fear and Anxiety when a Vein is breathed. This Blood has a peculiar Nature, and from thence it is that the most acute *Marcus Marci* very well says, That it is of no small Concern in what Disposition those Animals die, whose Parts are made use of in Physick.

In this Case the Transfusion of Calfs, Asses and Mans Blood, Venesection being always first premis'd, is convenient; for by it we have known many Mad-men cured at *Paris*, and I my self, as abovesaid, first try'd it with good Success upon one that was distracted. To infuse divers Medicaments, especially Opiates, into the Meferaic Veins, will not be unprofitable. Amongst Alteratives the Anti-Epileptic Spirit of *Hartman*, prepared of a Mixture of Salt of Urin, and acid Spirit of Vitriol is very good. Also in
their

their ordinary Drink, viz. in a Decoction of Pimpernel and Flowers of St. Johns-wort with two Swallows, you may put some Drops of Spirit of Vitriol, or *Lapis Prunella* in Whey of Goats-Milk, which have a peculiar Virtue of bridling and appeasing the Animal Spirits. And, to be short, we expect the only, at least, the certainest Help in this Distemper, from Opiates, provided the Patient be strong; for they wonderfully lay asleep the Animal Spirits that are violently moved, and allay and constrain their dangerous Violence. For the Sick Persons are often in Danger by the fierceness of the Spirits, which forsaking the Conduct of the Vital Faculty, put all things in Confusion; or as *Phaeton* being flung from his Father's Chariot, fir'd the Macrocosm, so do they the Microcosm. For *Opium* does calm these Furies, assuage these Commotions, and doth wonderfully allay the Motion of the Spirits. Hence proceeds pleasant Rest, and the desired Settlement of the discomposed Spirits, and also the Turgescency of the peccant Matter and Violence of the Humors hereby easily cease; for if the Spirits be composed, which is best done by a due Use of Opiates, the Republick of the Microcosm, that was before in Confusion, does in a manner return to a settled State. If amongst Opiates you desire the more simple sort, *Meconium* (for *Opium* is scarce with us) may be digested and corrected with some fixt *Alkali* Salt, especially of Tartar, with Turpentine, or by an artificial Fermentation with Juice of Quinces, according to *Hoffman* in his *Clavis Pharm. Schræd.* which *Opium* so corrected becomes anodyne without being Narcotic, and ten Grains of it do more Good

and less Harm, than thirty of any other. Of this *Laudanum Opiatum*, *Helmont* speaks very elegantly *Tr. Jus Duumviratus*, S. 64. Happy is that Patient whose Physician knows how to separate from Poppy that which is deadly, and retain that which is useful. Amongst Minerals, Sulphur of Vitriol, and Anodynes of Copper are very effectual; but seeing that these Medicaments are not so easily attained, we ought in the meantime to be content with Opiates. Nor do these following want their just Praise, *Theriaca coelestis Hanov.* the Anodyne Tincture of *Zwelfer*, *Diacodium*, *Theriaca Andromachi*, and others which we purposely omit; for we cannot be particular in every thing, designing only to give a general Scheme. Nothing will more fix and settle the raging Animal Spirits than Oil of Pearls rightly prepared, the Efficacy of which we have often Experienced in this Distemper. This following Lunar Spirit is also very good.

Take of the Filings of Silver one Part, of Sulphur two Parts. After they are gently melted and united in a Crucible, and pulveriz'd, pour upon it Spirit of *Sal Armoniac*. Extract a Tincture according to Art, which crystallize, and with a Retort draw a Lunar Spirit. The Dose is from sixteen to twenty Drops.

If the Patient cannot sleep, the following Potion may be given about Bed-Time.

Take of *Laudanum Opiatum* two Grains. Dissolve it in a sufficient Quantity of Essence of Pimpernel and St. Johns-wort.
F 2 Sweeten

Sweeten it a little, and give it at once.

They commend Musick in the Biting of a *Tarantula*, and in the Distemper arising from thence, which is like to this in every thing; and since others have done it, I think we may make Tryal of it. Amongst the most ready Specifics is the Blood of an Ass drawn from behind the Ears, desill'd with the Flowers of St. Johns-wort, Juice of Pimpernel, Roots and Seeds of wild Fennel; and these are also good if infus'd in their ordinary Drink. Agrimony boil'd in Spring Water is excellent. I have often known good Success from this which follows.

Take of *confectio Alkermes* one Ounce, Tincture of *Lapis Lazuli* half a Drachm, of Amber two Scruples, Essence of St. Johns-wort, Pimpernel of each half a Drachm, Magistery of *Luna* half a Drachm. Mix them. The Dose is one Ounce Morning and Evening. Or, Take of Water of St. Johns-wort, Pimpernel of each three Ounces, *Confectio Alkermes* a Drachm and a half, *Lapis Lazuli* prepar'd two Scruples, Syrup of St. Johns-wort one Drachm. Mix them. The Dose is two or three Spoonfuls. Or, you may often give the Tincture of *Lapis Lazuli*, or the Essence of Pimpernel or St. Johns-wort. Also *Mynsicht's* Compound Tincture of St. Johns-wort. Or, Take of *Nitrum Antimoniatum* one Scruple, *Butyrum Perlarum* half a Scruple, Magistery of Amber three Grains, of *Luna* five Grains. Mix them, and make a Powder for one Dose. Or, Take of the

Spirit of Vitriol sulphurated half a Drachm, Syrup of Violets two Drachms, Water of St. Johns-wort one Ounce. Mix them for two Doses.

Weathers Brains fry'd with Cinnamon, Nutmeg, Cloves, and given for three Mornings, is reckon'd as a great Secret by a certain Anonymous Author.

The Secundine of a Woman of her first Child Pulveriz'd, and a Drachm of it given privately in Wine, is sometimes available. A Friend told me for a great Secret, that he had cured many Mad-men with the Juice of young Swallows, given to the Quantity of an Ounce twice or thrice in the Water of Pimpernel.

Amongst external Applications, we commend divers Epithems and Unguents prepared of anodyne and cooling Opiates, and applied to the Head shav'd, and Temples. Many of our Country-men destil Bay-Berries in *Balneo Mariae* with Camphore and Whites of Eggs, and bath the Head therewith.

A live black Hen (but we say Swallows) cut in two in the Middle, and laid reeking hot to the Head when shaven has been found successful.

We are not against the Use of these Things by the by, Frictions, Ligatures, Scarifications; and also Cauterics, both Actual, as Burning with Indian *Moxa*, or our German *Moxa* found out by us; and also Potential, but they must be us'd with Caution.

Whichever goes about to draw a more exact *Epitome* from the preceding Medicaments, need not fear to lose his Labour.

CHAP. V.

Of a Lethargy and Carus.

§. 1. *Definition.*

Lethargus or Lethargia, the Lethargy (by some call'd *Veternus*, by some *Torpor*, by some *Sopor gravis* or a heavy Sleep, by some *Coma*, by some *cataphora*, and by many *Subeth*) is commonly defin'd : A Cessation of the principal Faculties, but especially of the Memory, with an unavoidable Necessity of Sleeping, (as *Celsus* expresses it) and arising from a watry Humor, with a continu'd lingering Fever. A Lethargy and *Carus* are near akin, and are almost cur'd the same way, and therefore we thought fit to treat of them both together. our own Definition is this ; An indispensable Necessity of Sleeping, with a perfect Oblivion, sometimes with a Fever and *Delirium*, sometimes without them, and arising from the Animal Spirits sticking in a glutinous viscid Matter, and forgetting their Offices.

§. 2. *Difference.*

A *Carus* differs from a Lethargy thus ; A Lethargy is attended with a Fever, and the Lethargick opens his Eyes at loud bawling, and makes some impertinent Answer when spoke to ; But those

who share in a *Carus* have no Fever, never open their Eyes, speak, or stir, but lie as if they were dead, only draw their Breath. A *Carus* is not unlike an Apoplexy, yet it differs from it in Respiration : for in a *Carus* there is a free Respiration, but in an Apoplexy scarce any. In a *Carus* they neither are sensible, nor stir, nor understand, nor think, nor desire, and only differ from dead men, in that they draw their Breath.

§. 3. *Part affected.*

The Part affected according to the Ancients, is the Substance of the Brain, and most of all, its hinder-Part, but not its Ventricles : Which they endeavour to prove from the Functions of the Brain being hurt ; because in this Disease chiefly the Memory and the Reason suffer, which are the particular Offices of the *Cerebellum*. Some of the Ancients take the Heart, though without Reason, for the Part affected.

Avicenna in his *Anima Brutorum*, reckons for the immediate Subject of Sleep and Waking, the greater part of the Sensitive Soul radicated in the Brain, which, according to him, is nothing else but the Animal

Faculty and Spirits, and he confidently asserts, That the Soul (like as in Sleep,) does as it were furl its Sails, and hide its Head in its own Bosom.

Sylvius does not take the Brain in this Distemper to be the Part affected, but the Vessels that carry the Blood. For says he, *Prax. l. 2. c. 29. § 19.* Tho the Head of the Lethargy be heavy, yet that may proceed from the Humors that are carried with the Blood to the Brain; so that we need not have Recourse to a peculiar & primary Fault of that Part.

The **Cartesians** blame the Pores of the Brain, which if obstructed, the Animal Spirits cannot pass through them to execute their Offices; from whence, say they, proceed such an Inclination to Sleep.

Helmont, lib. Jus Duumviratus, thinks this Distemper to be originally from the Stomach and Spleen.

We take the Brain and *Cerebellum*, and their Pores or Passages through which the Animal Spirits move to the Execution of their Duties, either in the Brain it self, or the other outward Senses, to be the primary Subject. But as to the Specific and Individual Part, We think the Medullar Part of the Brain is primarily concern'd, because this Part is rather the Rendezvous of the Spirits, than the Part where they are bred; nor do we exclude the *Cortex* of the Brain, which commits most of the Spirits, when they are generated, to the Nerves. For if the *Cortex* be the Seat of the Memory, and of Sleep, as *Willis* says it is, it cannot but have a share in this Calamity.

§. 4. Diagnostick.

There is in these Diseases an insuperable Inclination to Sleep, with a Forgetfulness of every Thing; yea sometimes the distemper'd Person cannot remember his own Name. Sometimes there is a *Delirium*, sometimes none, and sometimes a continual lingring Fever. When it is continual, he ascribes it to the Choler mixt with the whole Mass of Blood; when lingring, to the less active Choler, (seeing this is but Flegm dispers'd) wherefore the Parts do not burn so much. And this continual Fever may be remitting; but not intermitting, because the Blood is not equally tainted.

The Patient is forgetful in this Disease, because the Brain presently subsiding, disturbs that orderly Motion of the Spirits which is required for the Memory; and hinders them from passing vigorously, and after their usual way, into the track formerly made in the Brain, and from being reflected to the *Glandula Pinealis*.

The Sick Persons make very slow Replies, altho they be press'd to it, and for the most part lie with their Eyes clos'd, but now and then Lethargicks open them, if you call aloud upon them, which being shut again, they forth-with return to their former Sleep, and sometimes to such a Degree, that though you pull them by the Hair it will not hurt them, as being so far stupified, that the Operations of all their Senses are suspended. There is sometimes so great an Oblivion and Eclipse of the Memory, that, like Mad-men, they forget every thing; yea, though some call for a Chamber.

ber-Pot with a design to make Water, yet they forget what they were about to do, of which I my self can give two Instances; which makes it clear beyond all Dispute, That the Memory and Reason are in this Case quite abolished. They also, that are took with this Disease, often yawn, and have a lingering Fever, with a slow trembling, and languishing Pulse. The Reason why the Pulse is sometimes hard, sometimes soft, is, because the Skin or Flesh and Arteries under the Skin, are softer or harder, which imposes upon him that goes to feel the Pulse. Some have their Stools thin, others again are bound and have their Stools hard. Their Urin is commonly like to that of Cattle, which is always better than if it were clear. In some we have observed a sweating, accompanied with a trembling.

Their Respiration is sometimes strong, sometimes weak, sometimes slow, and sometimes attended with a rattling. That *Delirium* which now and then goes along with this Distemper, is not a true *Delirium*; for we all of us dote as much, and make as impertinent Replies when we are drowsy, because the Motion made upon the Nerves, by the Words spoken, is scarce carried to the Brain, or if it be, it is but very obscurely and corruptly; wherefore it is, that in the Soul are started confus'd Thoughts and Perceptions, which the making answer to, speaks absurdly: therefore it cannot be said that he that sleeps is delirious, because we have known so many Persons in Health to answer impertinently when betwixt Sleeping and Waking. The Case is the same in this Disease, so that we need not ascribe the Cause to Putrefaction in

the Brain. There is a Drowziness and Heaviness throughout the whole Body, especially the Head, and though they be turn'd upon their Backs or Sides, yet they will turn again to their former Postures. In a *Carus*, altho the Patient be awaked, yet he neither is sensible, nor gives any Answer when spoken to, which is a thing proper to a *Carus*; yea, if you prick him, altho he show some small sign of Sensation by Contraction of the Part, you cannot for all that rouse him up. For the most part also all the outward Senses become in the End stupified, whereupon neither do the inward Senses perform any of their Duties, and are just as if they were dead, excepting that Respiration remains unconcern'd. So that a *Carus* is a Kind of a middle Distemper betwixt an Apoplexy and the other sleepy Diseases, and the next Degree to an Apoplexy.

§. 5. Cause.

THE Ancient Galenists, with their Followers at this day, reckon the immediate Cause of this Distemper to be from the cold and moist Intemperature of the Brain, that corrupts there; and from a pituitous Tumor or cold Apostem, arising from the putrifying of cold Phlegm, and by that means disturbing the Reason and Memory, and causing a masterless Drowziness. From the Putrefaction of Phlegm they deduce the Fever; so that they say the Cause of these two Distempers, is, a thick and clammy Humor lying upon the Substance of the Brain, by the abounding of which they solve all the Phenomena of this Distemper.

§. 6.

THe *Paracelsists* deny that it is caus'd by the Coldness and putrifying of this Phlegm, but say, That it is from the Spirits or Vapors of Sulphur, or a sort of Narcotic Salt, which by its viscosusness ties up the Spirits, or by its vitriolick acidity coagulates, or by its Narcotic Quality stupifies them, so that they cannot come at the Organs of the Senses to do their several Offices. Which is confirmed by this, That there must needs be found some fuliginous and stinking Sulphur, as in Poppy, *Opium*, deadly Night-shade, Henbane, Mandrake, and such like, which contain in them stinking Narcotic Oils, which easily take Fire, & so abound with a soporiferous Quality, which is the Property of inflammable Sulphur. Therefore though *Opium* and *Opiates* by the *Galenists* are accounted cold in the fourth Degree; yet if the Temperaments and Qualities of things are known by their Taste and Effect, our *Opium* is not only bitter, but also sharp and bites the Palate; from whence the *Paracelsists*, no doubt, conclude, That these above-mentioned contain a Sulphur in them, to which the Cause of this Distemper is wholly to be ascribed. According to the Chymists therefore these two Diseases, *Carus* and Lethargy, are caused by the Resolution of Narcotic Sulphur.

Paracelsus, *Lib. 2. de Vita longa Cap. 2.* makes a Lethargy a Species of *Gutta*, which *Gutta* he calls the Separation of the nutritious Juice from the Part, which is done by the Sublimation of the Cachochymic Mercury. In another Place he makes the Salt of

Vitriol to be the Cause of this Distemper.

§. 7.

Helmont, and his Follower *Tachenius*, falling, by what means I know not, into the *Paracelsian* Road, think that this Malady has its rise from a vaporous Sulphur.

§. 8.

Willis says, that this Disease is generated from a watery corrupt Matter overspreading the outward Part of the Brain; and partly from some Narcotick Particles pre-existent in the Blood, and convey'd thither; and therefore adds, that by this means the Circulation of the Blood is hindered or altered. He also thinks that the Serum, and other ill Humors are sometimes sent in too great Quantity to the Brain, and that it easily receives them, by Reason of its Pores being over-widened, by the too much Coldness and Moistness of its outward Part; as he proves by the Example of Children, and Old Men, such as are Cachochymic, Hydropic, Scorbutic, &c.

§. 9.

Sylvius, as was said before, thinks the Cause to be a too great Quantity of gross Phlegm, and a Narcotic Choler closely mixt with the whole Mass of Blood. The lingering Fever he derives from that naughty Bile vitiously fermenting with the Phlegm which it meets in the Duodenum.

§. 10.

Cartes and his Followers, who assert natural Sleep to be the subsiding or closing of the Pores of the Brain, conclude that the immediate Cause of this Distemper is a preternatural Obstruction of those Pores by means of a gross Humor, and a Want of Spirits, which are drowned by an Inundation of filthy Matter, and thereby changed with the Figures of the Pores. And they also say, that viscid dewy Vapors, which easily turn to Water, and oppress both the Brain and Soul, do much contribute: when, on the contrary, sharp and dry Exhalations, because of the too great Agitation of their Particles, do not so readily turn to Water, as we see the most blustering Winds to dry the fastest, of which *Cartes* Discourses more at large *de Meteor. c. 3. p. 212.*

§. 11.

Wh^o, as to our own Parts, suppose the Animal Spirits, surrounded with Clouds of Vapors, to stick in a viscid, and, for the most Part, acid Matter, so that they must needs desist from doing their Duties; especially if the Passages are stop't which they were wont to pervade; for from hence there will proceed a Cessation of the preternatural Undulation and Motion of the Animal Spirits into the Nerves, and their Irradiation into all the Members. But the more immediate Cause is to be sought for in the viscid Mass of Blood, and in the Spirits of the same Nature, viz. that are imbued with a certain extraneous Spirit,

or *Gas*, (as the Chymists call it.) For if any heterogeneous Thing whatever, in either of these, obstruct or overflow the Pores in the *Cortex* of the Brain; or also if any Narcotic Poison by its previous filth drives away the aforesaid Spirits, and altogether extinguishes them, then this Mischief is easily raised. The Motion and Circulation of the Humors are diminished in this Distemper, and in natural Sleep, because the Spirits not flowing so copiously into the Vessels, squeeze them not so much, nor consequently move and thrust forward so swiftly the Humors contained in them. Now these Humors by sticking there are thickened, and by long stagnating cause Obstructions, if they be not presently driven on by the Spirits. In the Evening we grow dull and drowzy for want of Animal Spirits, and upon this account many Diseases are worse towards Night, and from this greater or less Defect of Spirits, for the most part proceeds more or less sound Sleep. Therefore the Cause of this Distemper lies most commonly in the drowzy Disposition of the Animal Spirits, the Obstruction of the Pores of the Brain, and the viscidty of the Blood. For whilst this heterogeneous and clammy Mass of Blood forces its way into the Brain through the two *Carotides*, it leaves there a glutinous and slimy Matter, in which the Animal Spirits stick fast, and so the Pores of the Brain are obstructed.

Narcotic Medicines may easily produce this Disease, if they be given unseasonably, or in too great a Quantity, for they very much fix the Blood and Spirits. Narcoticks are to be manag'd prudently when the

the Patient has long wanted Sleep, because then the Fermentations are very weak in the Heart, and when the Narcotic Quality gets into the Blood, it so disposes it, that it is less and less fermented. Wherefore when Strength is already decayed, it is so far further diminished by the use of Opiates, that life cannot be supported: And hence it is that sometimes, after a small Dose of Opiates in long Watchings, Death ensues.

This Distemper sometimes also has its Original from a Narcotic Vapor arising from Coals or Turfs; for these Vapors have some Arsenic in them, wherefore if they cause any one to faint, he must be exposed presently to the open Air, and hot Spirits put into his Mouth, such as *Aqua Theriacalis*, *aqua Vita*, *Antipilectica*, &c.

Drunkenness and Gluttony, as we have said before, may easily bring this Distemper. Corruption is an unequal and bad Mixtion of the Parts of the Blood amongst themselves, whence comes a Fever: For every Fever is not an Accension of the Blood in the Heart, and an encreased Fermentation, because in some Fevers the Pulse is the weakest.

Therefore when the Blood is thick, pituitous and badly mixt, it breeds gross and ill mixt Spirits, whose Parts consist of very irregular Particles, some of which are gross, others fine and pure. The purer sort, at first, pass into the Nerves, but afterwards being obstructed by those that are gross, the subtler can no longer enter, and hereupon the Nerves flag. And because pituitous Humors do every where obstruct the Arteries and their Pores, wherefore there are not

Spirits enough generated to puff up the Brain, and keep it inflated. And hereupon all Motion and Sense is lost; for the Nerves not being swoln with Spirits, they become flaccid and subside; so that although they be twitched at their Ends yet they cannot transmit that Impression to the Brain: And hence arises this Distemper. From what has been said, all the *Phænomena* of this Disease may very well be explained and unfolded.

§. 12. *Prognostick.*

NOW that we have done with the Causes, we will proceed to the *Prognostick*. Of which *Celsus* thus speaks, "Seeing this is an Acute Distemper, it brings Death if there be not present Help. And the divine *Hippocrates*, 2 de *Morb. vulg.* defines the Time in these words; "Lethargicks die in seven Days, but if they escape so long, they will recover." This Disease is also dangerous if it come upon a Fever, or other Cephalic Diseases, or a continual Colick. Also old Men are in more danger than young, for their Spirits are not so vigorous as young Mens are, and also in those that are old the Pores of the Brain are more subject to Obstructions, which hinders the Spirits from enlightning the other Parts, and making them fit to do their Duties. For the Spirits are the Governors of the Body, but if there be not a sufficient Quantity, it must needs be that the Body mightily suffer. It is also an ill Sign if the Patient be over-whelmed with a very great Drowsiness, and if he breath slowly or rattle. But there is more Hope if the Distemper proceed from Gluttony, Drunkenness,

kennels, Smoak of Tabaco, use of Narcoticks, a light stroak on the Head, or by too much wetting the Body. In like manner it is less dangerous if Evacuations by Stool and Sweat, whether by Art or Nature, give ease; also if their Blisters run well, and if they sneeze often, and their Nose or Eyes drop with Water. If there be an Abscess behind the Ears it is lookt upon as a Degree to Health, and is commonly accounted a *Crisis*. A Suppuration often grows in the Breast when they begin to recover. A Trembling in this Distemper is one of the worst Signs, and also a cold Sweat about the Head and Forehead. If the Excrements by Stool be many and thin; it denotes a greater Defect of Animal Spirits, and consequently Danger. The Female Sex is most obnoxious to this Disease, because they most abound with serous Particles. A Cure is very difficult in old Men, in that their Obstructions are not so easily opened, because of the Hardness of their Fibres.

§. 13. *Dietetic Cure.*

THESE Things being explain'd, we must now come to the *Dietetic Cure*. Let the *Air* be clear, hot and dry, which may be amended with burning Juniper-Wood, Rosemary, and Leaves of Bay-Tree. On the other Hand, a cloudy, rainy, moist and cold Air must be avoided; for such an one is an Enemy to the Animal Spirits, and thickens the Blood, and thereby deprives the Spirits of their Commerce.

Let the *Meat* be attenuating, and taken in due Proportion, but it is better to eat too little than too much. Breths. of Capons, Hens

and Pullers stuff'd with Cephalic & other Herbs are very good. Pheasants also are wholsom; but all Meats whatever must be seasoned with Cinnamon and other Aromatic Herbs. Such Meats as are crude, windy, cold, and salt must be forborn. As also Pulse and all Pot-Herbs, no less than Milk-Meats, and other Things of the same Nature.

Their *Drink* must be small Wine, Prisan, and small Beer. Tea and Coffee are very good. They must by all means forbear drinking Spring Water, or swilling of any strong Liqueur.

Sleep must be kept off as much as may be, by pinching, pulling the Hair, and if need be, by pulling the Limbs, or by putting under their Noses Fumes of Sulphur, Castor, Galbanum, Sagapenum; also Spirit of *Sal Armoniac*. must be put to the Nose. The Ancients us'd to irritate the Fibres of the Nostrils with the sharpest Vinegar.

Instead of *Exercise* let them be soundly rubb'd all over with rough Cloths, especially their Feet and Hands; and they must be often mov'd from one Side of the Bed to the other.

As to what concerns the *Excreta* and *Retenta*, All possible Care must be took that the Belly be loosned with Clysters, Suppositories, and other such like Catharticks.

Amongst the *Passions of the Mind*, Joy and Mirth are to be endeavoured. To this purpose, Friends are to be call'd in, who by keeping a bustle with the Sick Person, may interrupt his Sleep. Melancholy, Sadness, Cares, Fear, &c. are to be avoided.

§. 14. *Pharmaceutic Cure.*

THE Ancients, who followed Galen's Methods, make use, in this Distemper, of these Preparatives; A Decoction of Sage, Hyssop, Time, Marjoram, Betony, Pennyroyal, Fennel, Smallage, Maiden-Hair, Bawm, Roots of Butchers-Broom and Grass; to which Decoction they add Honey of Roses, or Oxymel. When the Distemper has took deep Root, they then encounter it rather with Purgatives, which are these; *Hiera Diacolocynthidos*, *Diaphanicon*, *El. Indum Maj.* Trochiscs of Agarick. They also sometimes advise to vomit with a Decoction of Rhadish, Orrach, and Vinegar of Squills, &c. After that they are wont to prescribe Clysters of Mallows, Chamomil, Sage, Marjoram, *Origanum*, Centory the less, Rosemary, Betony, Fennel-Seed, *Colocynthis* Agarick; in the Colatures of which they either dissolve *Hier. Logadii* or *Electuarium Diaphanicon*, Oil of Chamomil, Rue, Honey of Roses, &c.

Amongst these they are wont to use Suppositories of Honey with *Species Hiera picra*, and common Salt, or *Sal Gem*.

Those Things are by them call'd *Revellers*, which can avert the Humors, and rouse the sick Person in these Distempers, as Venesection, Clysters, Suppositories, Rubbing of the Palate and Tongue with Honey and Vinegar, in which is mixt Pellitory of Spain and Mustard-Seed. The extreme Parts of the Body are to be rubb'd until they are red and sore, which also, they say, must be pinch'd, stung with Nettles, and prick'd, and the distemper'd Person must be violently

pull'd by the Hair of the Head to stir him up and avert the Matter. They command the Application of Cupping-Glasses to the back part of the Head, as also to the first or second *Vertebra*, and likewise to the Buttocks and Thighs. They advise Errhines of Vinegar, in which are boil'd *Origanum*, Time, Pennyroyal, &c. and to snuff up the Nose the Vapors that arise from thence. They endeavor to raise the sick Person with a Suffumigation of *Galbanum*, Castor, *Assa foetida*, *Euphorbium*, Sulphur, Pitch, Harts-Horn, Mans Hair, and other such Things.

The Ancients think that Lethargicks may be raised by a Crains Gall, heated in a leaden Vessel, and the fore-Part of the Head anointed therewith; and they also vainly imagine that the Eyes, Heart and Gall of a Nightingale, as also the Head of a Bat (these being watchful Creatures) laid under the Pillow, will keep the Patient awake,

They use Gargarisms and Apophlegmatisms: Also Irrigate and Foment the Head shaven, and especially the fore-Part, with a Decoction of Rue, *Origanum*, and other Aromatics. Neither do they neglect Sinapisms of dry Figs, Mustard-Seed, Pigeons-Dung, *Cantharides*, &c. Last of all, they are wont to amend the remaining Intemperature, and to corroborate the Head with their Strengtheners, such as Conserve of Betony, Marjoram, *Diamoscu Dulce*, *Diambra*, Mithridate, Treacle, *Confect. Anacardina*: Outwardly, with Oil of Castor, *Ol. Nardinum*, *Costinum*, &c. Also they would not have Perfumes of Castor, Pennyroyal, Time, &c. to be neglected. They think also that Oynment of Castor is wonderful good for the Head

Head in this Distemper. And they lay to the Head shaven, with good Success; a Bag of Millet-Seed and Salt roasted.

§. 15.

WE will now, having done with the *Galenists*, proceed, according to the Order of our Method, to the *Paracelsists*, and, if we may be Choosers, we will follow those who commend in these Distempers the Philosophick Spirit of Vitriol, and the Volatil. For *Paracelsus* himself *de Alchymia* says, that a Lethargy being a Mineral Distemper, is not to be cured by Decoctions out of Apothecaries Shops, but by Minerals. A certain Man, he says, after a Fever, fell into such a deep Sleep, that he was not sensible when prickt, nor could open his Eyes, or speak one Word, but lay just as if he were dead, being in a Lethargy, whom he cured with Oil of Salt, as he likewise did another with Oil of Vitriol. Oil, Milk, and Quintessence of Sulphur, are in the same Esteem. In another Place he commends in these Distempers a twofold *Arcanum*, *Vitriolatum* and *Mercurius Solis*, which he would not call *Aurum Potabile*, (not liking, perhaps, the vulgar Appellation) but gives it the new Name of *Horizon*. Amongst Minerals, he affirms, that the Essence of Antimony has a specifick Virtue in quite rooting out the Cause of this Disease, and mightily strengthening Nature, and this he also us'd in many other of the most grievous Diseases of the Head. The Madness and Envy of Chymical Knaves hinders me from divulging the genuine and truly Philosophical Preparation of this and other *Arcana*. Out-

wardly this Author commends Balsam of Alces, Myrobalans Chebul. Bellyr. Ind. &c.

§. 16.

HElmont magnifies the Roots of Carline Thistle, and also the Juice and Extract, all which, he says, do by sympathy drive away Sleep, and most of all, that which is preternatural. He also says, that what he advises in the other soporiferous Distempers are proper in this. But to repeat all these Things would be impossible.

§. 17.

NOW comes *Willis* upon the Stage, who takes this Method in the Cure. After the Injection of a sharp Clyster he advises Venesection, and rather in the Jugular Vein than the Arm, because the stagnating Blood is by this means brought to a more equal Circulation. He commands large Veficatories to be applied to the Neck and Thighs, and the Temples and Face to be anointed with Oil of Amber or Cephalic Balsams. He orders Cataplasms of Rue or Crowfoot with black Sope and Sea-Salt beat together into a Pulvis to be laid to the Soles of the Feet. Rough Frictions, according to him, are to be used to the outward Members. He highly commends Scarifications, Errhines, Sternutatories, and Apophlegmatisms. Inwardly he uses these Medicaments. If the Lethargy proceed from Surfeiting or Narcoticks, then he thinks that a Vomit of an Infusion of *Crocus Metallorum* is most convenient. After this he furnishes us with appropriate Cephalicks, as divers Volatils.

tils. Amongst outward Applications he is for having the volatil Salt of Urin, or Spirit of *Sal Armoniac*. often held to the Nose.

§. 18.

Sylvius thinks the Cure of this Distemper consists in altering and evacuating the redundant Phlegm (as was said above when we spoke of the Cause) and also in correcting the Cholera that has a Narcotic Quality. To answer this Intent he commends the Roots of Flower-de-luce, *Acorus*, Galangal, *Calamus Aromaticus*; Leaves of Marjoram, Sage, Bay-Tree, Hyssop, Mother of Time, Wormwood, *Carduus Benedictus*, Mint, Flowers of Centory the less, Chamomil, Seeds of Bastard-Lovage, Anise, Caraway, *Nigella*, Berries of the Bay-Tree, of Juniper, Gum *Opoponax*, *Galbanum*, *Bdellium*, *Ammoniacum*; and he highly values almost all Aromaticks, in that they cut the gross Phlegm.

Amongst Evacuators he makes choice of Agarick, Turbith, full of Gum, *Colocynthis*, and any Preparations of Mercury. Furthermore he asserts, that the Bile, which is often endued with a Narcotick Quality and occasions a Fever, is corrected by Things that are aqueous, acid, &c. And in this Case he prefers Oil of Sulphur *per Campanam* before acid Spirits, and says, That next to it is Spirit of Nitre.

§. 19.

The Followers of Cartes, who seek for the Cause of this Distemper either in the Scarcity of the Animal Spirits, or the Subsistence and closing of the Pores of

the Brain, occasion'd by a too great Inundation of Pituitous Humors, as was said above, do therefore attempt the Cure with volatil Aromaticks, which restore the Spirits, open the Pores by means of their Volatility, and do cut and dissolve the viscid Matter. They commend Castor and other penetrating Things of the same Nature, that is, such as consist of very volatil and subtle Parts, and therefore can more easily pass through the Pores, irritate the Spirits, and dissolve the Phlegm. And because this Distemper proceeds from a viscid Matter, they argue that such Things are to be used as consist of rigid and hard, but, notwithstanding, small and slender Particles, that they may easily insinuate themselves into the Pores, and may not be byass'd by the striking against other Particles that they meet; such as are all spirituuous Things, and volatil aromatic Salts; these Woods, *Guajacum*, Sassafras, Roots of Masterwort, Elecampane, *Calamus Aromaticus*: Leaves of Betony, Bawm, *Origanum*, Sage, Marjoram, Time, Rosemary, &c. For all these Things consist of rigid and hard Parts, but yet thin and slender, from whence they have the Power of penetrating, cutting, altering and dissolving gross Humors.

They also magnify Sternutatories or Sneezers, insisting upon the foresaid Method, because they have such stiff Particles and partake of a certain Acrimony; for no sooner do they touch the little Membranes, but they twitch them, and thereby irritate the Spirits to such an Excretory and Spasmodick Motion. We say nothing here of Preparers and Purgers, and external Medicaments,

ments, seeing that an understanding and ingenious Reader, may be furnished from our own Method of Cure, which now follows.

§. 20.

IN giving the Causes of this Malady we blam'd a vitious Acid obstructing the Pores of the Brain, and therefore Our principal Intent in the Cure must be, That the Animal Spirits, sticking in a viscid and acid Matter, may be set at Liberty, and the Mass of Blood be freed from its Viscidity and Clamminess, which not without Reason we commend as the greatest Secret of Successful Practice in this Distemper. Therefore being furnished with these Indications, we pass to the Cure. We commend volatil Salts in General, as well of Vegetables, out of Cephalics, and their volatil Spirits, as of Animals, out of Man's Blood, *Matthiolus's* Quintessence, volatil Salts of Amber, Harts-Horn, Secundines. That noble Remedy the *Liquor Cornu Cervi Succinatus*, the nervine Liquor of *Schefer*, Castor and its Tincture both outwardly and inwardly are available. Nor are volatil oily Salts, prepar'd of the Oils of Aromaticks to be neglected, but especially if they be mixt with spirituous Things, as volatil Salt of Saffron, they do admirably draw the Animal Spirits out of that viscous acid Matter in which they are set fast, and do correct and amend the acid and viscous Mass of Blood. Thus much of the General, now we proceed to the more special Remedies. As soon as we come at the sick Person, without delay we order Frictions, Pinchings or Prickings. For the

Patient is roused by Pricking, because whilst that you prick and pinch the Extremities of the Nerves, the Pores in the Brain and Nerves are opened, and so some become greater some less, by the Variation of which, way is made for the Spirits to flow into the Nerves. Lethargicks are sometimes raised by Pricking, because some few Spirits still remain in the Nerves, so that they can convey the Motion, that is made by a strong Pinching, to the Brain. Neither are the Nerves ever wholly without Spirits, for always, so long as a Man is alive, there are some still remaining in the Body. We also use to lay Vesicatories to the Nape of the Neck, and sometimes behind the Ears; and to the Tongue, Nostrils and Temples we apply Spirits of Castor, Amber and Urin. *Ex. gr.*

Take of Spirit of Wine camphorated, *Sal Armoniac* aromatized of each a Drachm, Vinegar of Amber and Rue of each half an Ounce. Mix them. By the Use of this you will find much Benefit.

Afterward we take Care to give sharp Suppositories or Clysters (of which below). But if the Distemper proceed from Gluttony, or the unseasonable Use of some Narcotic Medicament, or if there be any Fear of the Patient's having took Poison, then Vomitories are an immediate Help, as *Hippocrates* and Experience testify. And here also spirituous and sulphureous Things will contribute more to the Cure than saline, in as much as spirituous Things have regard to the noxious Impressions made by the Narcotic Spirits,

Spirits, by putting them into Motion, and agitating them anew, as Acids do hinder their Impression, which *Ettmullerus* observes as well as we. But if the peccant Matter flow in great Quantity to the Breast (as is usual) and causes a Cough and Difficulty of Breathing, we may use, as a present Remedy, four or five Drops of Balsam of Sulphur with Turpentine dissolv'd in Syrup of Jujubes, which the noble *Horsenius* gave with extraordinary Success. And we endeavor to awake the drowzy Spirits with Sternutatories, and also with *Wedelius's Eupcrifton*, or the following Remedy.

Take of Water of Marjoram, Lily of the Valleys, Flowers of the Line-Tree of each half an Ounce, white Vitriol two Scruples. Mix them for a Draught.

Internally we must for some Time persist in the Use of Apoplectic, spirituous and odoriferous Waters, as the Spirits of Lily of the Valleys, black Cherries impregnated with volatil Salt. Our own Antilethargic Specific is this which follows.

Take of Powder of Castor one Drachm, Mustard Seed, Garden-Cress-Seed of each a Drachm and a half, Ashes of Swallows, prepar'd Amber of each a Drachm, Ambergiise half a Drachm, Leaves of Gold No. three. Make a Specific Powder. The Dose is from a Scruple to a Drachm, to be given in some spirituous Apoplectic Water.

Or, It may be given in a liquid Form, as follows.

Take of the *Liquor Cornu Cervi Succinatus* one Scruple, Tincture of Castor, of Amber of each half a Scruple, Water of the Flowers of the Line-Tree two Ounces and a half, of Swallows with Castor one Ounce, Syrup of Peony three Drachms. Mix them, and give it by a Spoonful at a Time. Or, Take of Spirit of *Sal Armoniac* with Amber, of Secundines, of an Elks Hoof of each a Scruple, Water of Bawm, Lavender of each an Ounce and an half, of Swallows with Castor, Syrup of Cinnamon of each an Ounce. Mix them. Or, Take of Oxy-mel of Squills two Drachms, Spirit of *Sal Armoniac* half a Scruple, Syrup of *Carduus Benedictus* an Ounce. Mix them. Or, Take of *Species diallune Mynsichti* three Drachms, Magistery of Castor two Scruples, Chymical Oil of Rue six Drops. Mix them, and divide it into six equal Parts, which may be took in the following Mixture. Take of Water of Rue three Ounces, Cephalic Water one Ounce, Oxy-mel of Squills an Ounce and an half. Mix them.

These Medicines will be very salutiferous, which if you joyn with Purgers, you answer several Intents. *Ex. gr.*

Take of Resin of Jalap twelve Grains, Tincture of Castor, Amber of each eight Grains. Which you may either make into Pills, or with Conserve of Rosemary-Flowers or Marjoram make a Bolus. Or, Take of *Pil. Alcophang.* half a Drachm, Resin of Jalap, Agarick of each three Grains, Magistery of Amber four Grains, Salt of Amber three Grains, Oil of

of Marjoram two Drops. Mix them, and make fifteen Pills. Or, Take of Castor two Scruples, Scammony sulphurated one Scruple. Divide it into two equal Parts, and give it in Oxy-mel of Squils.

Besides what we have named above in the Dietetic Cure, the ordinary Drink must be a Decoction of Tea, or the common Woods, as *Guajacum*, *Sassafras*, with aromatic Herbs, as Leaves of Marjoram, Betony, Rosemary, Flowers of the Line-Tree, Roots of Peony, &c. For a Specifick we commend a Decoction of Swallows with the Flowers and Wood of the Line-Tree. We might add much more of this Nature, if we would humor a wonderfully wanton & carping Age, which however we designedly omit. But as *Virgil* gathered Gold out of *Ennius's* Dung-hill, so may every Physician, that is any thing skilful, make a more choice Collection out of what has gone before.

In the last Place let Cupping-Glasses be applied both with and without a Flame; also Vescatories, Ligatures, &c. If all these Things do no good, recourse must be had to that often mentioned Infusion of divers volatil Liquors into the sick Person's Veins. Which, notwithstanding, I think must be omitted, as also Venesection, to avoid the Calumnies of the Vulgar, because when the Patient dies they lay the blame upon them.

Clysters in this Case are many Times convenient, which ought to be so sharp, as by irritating the Intestines to rouse up the distemper'd Person, and powerfully cut the gross Humors. Therefore they must be made of Cephalic Herbs, some sharp

Purgers being added, or one or two Drachms of Seeds of *Daucus* of *Creet* may be boiled in Whey, and half a Drachm of the Pulp of *Coloquintida* may be tied in a Rag, adding two Drachms of *Sal Gem*, and Salt of *Carduus Benedictus*. Or let this Clyster be prepared.

Take of Wormwood, Centory the less, Leaves of Rue, Betony of each a Handful, Root of Pellitory of Spain three Drachms, Pulp of *Coloquintida* tied in a Rag a Drachm and a half. Boil them in a sufficient Quantity of common Water, to eight Ounces of the Colature add of Electuary of *Hiera* with Agaric an Ounce, Oxes Gall thickned a Drachm, and the Yelk of one Egg. Make a Clyster.

Great-Dock Root, Barks of Tamaris-Tree, Shavings of *Guajacum* and Bryony-Root, to the Quantity of two Drachms, are also good in Clysters.

Stinking Things are to be held to the Nose, such as Spirit of *Sal Armoniac*, Castor, or this which follows.

Take of Oil of Tartar per *Deliquium* two Drachms, volatil *Sal Armoniac* half a Drachm. Mix them, and let them forthwith be put to the Nose.

Boil some of the sharpest Vinegar with Castor and Rue, and *Nigella*-Seed, pour it upon a red hot Iron, and let the Vapor pass into the Nostrils of the sick Person.

Sternutatories in this Case are extremely beneficial, and most of all this which follows:

Take of the Powder of *Virginia Tobacco*, *Marjoram*, *Lily of the Valley* of each a Scruple, *Castor* half a Scruple, *Volatil Salt of Urin*, Powder of white *Hellebor* of each four Grains. Mix them and make a Powder.

Let a Cataplasm of *Radish*, *Vinegar*, *Salt* and *Leaven* be applied to the Soles of the Feet.

For an *Oxyrrhodinum* we commend this which follows.

Take of Water of *Chamomil* an Ounce and an half, *Treacle Water* in which *Castor* is extracted an Ounce, *Ashes of Man's Hair* as much as you will. Mix them.

Those *Ashes* must be used because they contain in them a volatil Salt.

But Physicians do very ill to mix *Vinegar* with *Oxyrrhodina*; because it does too much bind the Pores.

Ligatures to the extreme Parts are often to be untied and tied again, because that changing very much affects the Soul.

A Sponge held to the Nose with *Juice of Smallage*, *Vinegar of Rue*, and Powder of *Castor* will mightily avail.

Take of *Smallage* three Handfuls, Flowers of *Nigella* and *Rue* of each a Drachm, *Castor* a Drachm and a half. Make a Bag according to Art. Or, Take of *Vinegar of Rue* two Ounces, *Juice of Rue* newly drawn half an Ounce, *Essence of Castor* two Drachms. Mix them.

CHAP.

CHAP. VI.

Of a Waking Coma.

§. 1.

A Waking Coma (which some call *Pervigilium*) is a morbid Somnolence, and an extreme propensity to sleep, which makes a man shut his eyes, but though he settle himself to sleep, yet he cannot take the least nap. Patients in this Disease are delirious, and act strange Absurdities. At first they find a dulness in their Heads, with a stupidity of all their Senses.

§. 2.

IT differs from a sleepy Coma, because in that there is actual sleep; but in a waking one sleep is hindered, and the Patients dote. But we shall say more of this, when we come to the Causes.

§. 3. *Part affected.*

THE Ancients commonly take the Brain for the place affected, some make it the *Cerebellum*, others, as the *Helmontians*, make it the Stomach, some the globous part of the Brain, some the cortical part, and others the *Glandula Pinealis*. We reckon the part affected to be the Pores of the Brain, and other

Bodies containing the animal Spirits, through which these Spirits, free from any taint otherwise, being put upon their duty, do rove, and like a daring and disobedient Souldier, run through all things and influence them.

§. 4. *Diagnostick.*

A Waking Coma is so well known, that we need no Signs, but what were given in the Definition before. However, if the Patient should dissemble, some conjectures may be made from the redness and heaviness of the Eyes, and likewise from want of motion, stiffness and driness in the Eye-lids. They are not themselves. *Helmont*, in the Dedication of his Book, mentions a couple, who were sick of this Disease, a Spaniard and a German. He observed that the German sat or laid in that very posture wherein they placed him, as if he had been a Statue. He was not able to give an Answer to what was asked him, nor did he understand what his Wife or any of his Children said to him, except it were in his own German Tongue; whereas at home he constantly used to speak Italian and French. Nay, after he was cured of this waking

Coma, he could scarce be perswaded to believe it.

The Patients sometimes shut their eyes, but cannot go to sleep, they dote and look down, they are perpetually prating absurd stuff, tossing their Arms and Legs to and fro, they look stern on those that wake them, they are vertiginous in their sickness, enclining to vomit, and most of them are lean. This Disease rarely comes of it self, but for the most part accompanies or follows a Phrenzy, Madness, or some other Cephalic Disease. Now for the Cause.

§. 5. Cause.

THE Galenists (who are for their All-fours in Complexions, Humors, and first Qualities, which Hippocrates, Helmont, and others have strongly opposed, as a thing destructive to Physick and Natural Philosophy) derive the Cause of this Disease from a mixture of Bile with Phlegm. For if Bile (according to their way of speaking) do more abound, they hold that a Waking Coma is bred; but if Phlegm exceed, then a sleepy Coma. And there are some of this Sect to be met withal, who endeavour to evince by Reason, that this Disease arises from bilious and phlegmatick Vapors, and they prove it by Fernelius his authority, who says, as if he were the Infallible, that Waking is caused, when a hot and sharp vapor attenuates and disperses the Spirits above measure: But these are like Penelope's Suiters in Homer, who instead of her courted her Maids; we will therefore see what Paracelsus says, though he is too much of the like stamp.

§. 6.

THE Paracelsists do in this Disease blame sulphureous sharp Exhalations, which cause a Burning: For after their way of arguing, these Vapors are of a different nature and property, as the nature of the matter whence they arise, do differ. And these Vapors are able to cause Watching, unquiet Sleep and Doting.

§. 7.

THE most sagacious Helmont will have the Stomach to influence the whole Body by Spirits, and he places the administration of all vital offices in the *Hypochondria*, i. e. in the Spleen and Stomach. Which two with him make up a *Duumvirate*, and command the other Parts, from whose unquiet and disturbed Government he thinks Watching proceeds.

§. 8.

LET us now see what Willis says. He makes the Cause to be a two great agitation and expansion of the animal Spirits: Which animal Spirits are in his opinion like Sentinels on their Duty, free from all impediments, but disturbed in their rest, and excited by external, mediate Causes; for instance, by some sharp Humor, by a Medicine, by Worms, &c. So the Spirits are put in action and upon continual duty by more remote Causes, by a blow, and Convulsion or Pain caused thereby, whereupon it cannot otherwise be, but that want of Sleep must ensue. Now in preternatural waking the animal

animal Spirits being too fierce and elastic, can scarce contain themselves within their place; wherefore being too much expanded, they keep the Brain and Nerves tense, and when at any time they raise a tumult in the Brain, they likewise raise various *Deliria*, and (which confirms the matter) sometimes the fierce and eagre Spirits, when they are recalled, do fall impetuously on the nervous kind, whereupon ensue palpirations of the Heart, twitchings and Convulsions. And we may constantly observe, That they who are afraid to sleep, as soon as ever they take a Nap, presently they start at a thousand Phantasms, and are forced to keep waking. For the animal Spirits, which ought to be calm, clear and lucid in their natural state, are in this case usually eagre and fierce, like the steams that arise from *Aqua stygia*. He holds that a sower, corrupt, salt and sharp Blood does remotely contribute much. He also maintains, that there is a sort of *Coma* which consists in a continual and excessive opening of the Cortical part and Pores of the Brain, caused by the foresaid preternatural humors.

§. 9.

Sylvius also is taken up with the same Sentiments, in a manner; and derives the next immediate Cause of this Disease from a too great agitation of the Animal Spirits. For he does not at all question, but that the animal Spirits are disturbed; and he the rather thinks he is in the right, because all things that hinder Sleep, are usually of such a nature, that they disturb the Animal Spirits; such

as are grievous pains, troubles and perplexity of mind, volatill sharp Salts, which render the bile or *serum* very sharp.

§. 10.

The Cartesians place the next immediate cause of Want of Sleep in an excessive dilatation of the Pores of the Brain, caused by the firing and excessive motion of the Animal Spirits. The mediate Causes are all such things as attenuate or heat the Blood too much, and that by moving it too much encrease the Animal Spirits; and things that open the passages of the *Plexus Choroïdes* and carotid Arteries, that dilate the Pores of the Brain, and make way for the ingress and egress of the Spirits; as also things that alter the Body by their excessive agitation and concussion, such as all sharp, aculeate, poisonous and purgative things, &c. all which things may here act their parts remotely. They maintain also, that this Disease is produced by paucity and acrimony of Animal Spirits; For paucity of Spirits hinders the Brain and Nerves from being totally puffed up and elevated; wherefore as it subsides, and so hinders the influx of the Spirits into the Nerves and Muscles, it would produce Sleep, but that the sharpness of Spirits, arising from Bile, or some humor abounding with a sharp Salt, does by continual Vellication open the Pores of the Nerves; so that though the Spirits be but few, yet they have a continual influx into the Parts of the Body, and in this manner produce a state between Sleep and Waking.

§. II.

Our own Opinion, is, That the Brain, being kept in continual action, sends too many animal Spirits to the organical Parts, which Spirits tarry longer than they ought in the external Parts, out of their proper place, and so when they are become too sharp and subtil, do not easily return to their former quiet state.

The Antecedent Causes are either a thin and sulphureous Blood, or too much diluted with sharp Bile, and excessively effervescent: all which things may produce fiery animal Spirits. For we think that the most part of the Bile is by its volatil Salt converted into animal Spirits, and as we have proved before, that Bile is the cause of Madness, so it may be the preternatural cause of want of Sleep; that is, where it exceeds, and is carried beyond its bounds. And that of the Philosopher, *Democritus*, confirms this, who answered the Physician *Hippocrates*, That Anger proceeds from the swiftness of Bile, which according to *Horace*, *Furor brevis est*; by the acrimony whereof the Animal Spirits are enflamed. And as in the former Chapter we observed, that some Mad-men in a fit of Anger, are so fierce and hot, that they regard not the greatest Cold, but are as strong as *Hercules*, and that cholerick Persons do not sleep so long as others. So likewise when abundance of Blood moves too impetuously, too many animal Spirits are bred: And the Acid and Saline being too sharp, there is observed a greater effervescence of Blood, and the Spirits arise in greater quantity. For the motion

is here more acute, great and frequent, by reason whereof not only the Spirits already bred are moved the quicker, but are sent in greater plenty from the Brain. And we see this in Madness, burning Fevers, and *Deliria*, where Salt and bilious humors are peccant in the Body by their acrimony, that all who are sick of those Diseases are forced to wake constantly. It is found also by daily experience, that if at Supper we eat aromatic or salt things, yea, or spirituous and sharp things, we usually lie that Night without Sleep, and by the same reason Bile may do the same thing. And they confirm this thing, who through watching, study, carefulness, and such things, cannot for some considerable time get any Sleep; because then the acrimony of the Bile is encreased, whereby the animal Spirits are made too sharp.

All grievous sensation, vellication, erosion, and pain do remotely hinder Sleep, in as much as they affect and vellicate the Organs of the Senses, and the animal Spirits residing in them. Intent Thoughts, Cares and Grief disquiet the Animal Spirits, keep them too long on duty, and by agitation consume the kindly Part, and cause an acrimony of Humors. Also excessive Watching is caused by a Blood too spirituous, and too salt, and by any excess of Spirits.

§. 12. Prognostick.

As for the Prognostick, *Hippocrates* says, In want of Sleep Convulsion and Doting are bad. Moreover in Want of Sleep a Cough is of bad Portent: for sometimes there is a translation of the sharp matter

matter to the Lungs which breeds a Consumption. *Helmont* observed that want of Sleep with solicitous Meditation caused an *Asthma*. It must of necessity cause Weakness, a Consumption and drying of the Body, because the oily and fat Parts are fretted off by the acrimony of the Blood. If it continue long, it causes Madness, and in a weak subject Death, by extinction of the animal Spirits in the outer Parts, and a total one at length in the Brain. Sometimes it is attended by a Cachexy; for through defect of Spirits, the Blood is made both sharper and more tough and clammy, whereby both the fermentation in the Guts, and the vital effervescence in the Heart are diminished. It is hard to cure in Old Men, *Mecenas* may be an instance, who, as *Pliny* l. 7. c. 51. writes, had a perpetual Fever, and slept not an hour at a time for three years, if you will believe him. However Reason is on his side: for old Men abound with sharp, serous, salt, briny humors, whereby the animal Spirits are greatly enraged. Want of Sleep arising from Study, solicitous Meditations, Pain from any Cause whatever, Grief, Fasting, strong Purges, &c. is easily cured, when these things are removed.

§. 13. Dietetic Cure.

Let the way of living, which consists in the Six Non-naturals, be as follows;

Let the *Air* be cold and moist, and the contrary be avoided. For who of us all is of so hard and strong a Body, as not to find himself much refreshed or offended by external blasts in an open Air?

The *Meat* must be easie of concoction, cold and moist, such as Chervil, Lettuce, and Broths of divers sorts. The Meat must be boiled, not fried or roasted, all corrupt sharp food must be avoided as Poison, which often occasion this Disease: for we have it from the Observations of famous Men, that sharp Sawces and Dainties have caused continual Waking, as has been intimated before, all which things sharpen the Humors, and cause Effervescences.

Excess in Food must be avoided, and flatulent things; but all that are ill of this Disease, especially that abound with an acid, are best in health, if they take some Food: for such Patients cannot well endure fasting, as I observe in my self; for I cannot sleep with an empty Stomach, but usually wake all night.

Drink must be a Decoction of Barley with Liquorish, or Beer well wrought, with Cowslip-flowers boiled in it, or an Emulsion of Almonds and the four cold Seeds, with a little white Poppy Seed, all which things do greatly correct the acrimony of Bile and other Humors, and compose the Spirits. Rich Wines and spirit of Wine, spirituous Waters, and such things are often the Authors of this Disease, because they do not only increase bile and other sharp humors through all the Body, but they force its motion, and spoil its consistency, and kindle the animal Spirits. Therefore we exclude all such things.

Motion must be moderate, and Rest must rather be enjoyed.

Sleep must by all means be procured, either by pleasant discourse of Friends, or by harmonious

nious Musick, or by the murmuring of Waters, or by being carried, or by rocking in a Cradle, or by Medicines, of which we shall speak hereafter. On the contrary, all things must be avoided, which may cause watching.

The *Belly* must be loose, not costive, and all other Evacuations usually made by Urine, Sweat, *Menses*, or *Hæmorrhoids*, must have their course either by Nature or Art, which, if they be stop't, cause many Distempers.

The *Passions of the Mind*, because by their various alterations they disturb the Spirits and Blood, must be kept within due bounds of Moderation: for all excess is an enemy to Nature.

But above all others, Anger must be avoided; for it encreases the acrimony of the Bile, which disturbs and puts the Animal Spirits in a fret. For you may observe that Angry men cannot rest in one place, they are in a heat and tofs, and if they bite, their Teeth leave some venom behind them. For I once heard a Cause tried before Judges, about a Man, that in his Anger had given his Neighbour an incurable Wound with his Teeth. All care, trouble, and deep thoughtfulness, because they disturb the Spirits, must be reckoned among things Prohibited.

§. 14. *Pharmaceutic Cure.*

AS for the *Pharmaceutic Cure*, the old *Galenists* cure a waking Coma idiopathick, and a Phrenzy with the same Medicines. Therefore I shall refer the Reader to the third Chapter of the Phrenzy. But if it come by Sympathy, they make use of Revellers and

Repellents: for they order Bleeding in the Arm and Foot, they apply *Oxyrrhodina* to the Forehead, they give Clysters and apply Blisters and Leeches behind the Ears, to draw back the Vapors (after their manner of talking) from the Head. When sharp Vapors are carried from the Stomach, by reason of bad Digestion, to the Head, they use *Diatrion Piperis*, and hot aromatic Powders, to help the Retentive Faculty and Concoction of the Stomach. But if any crude matter lie in the Stomach, then they give *Oxymel* of Squills and other things. In consumed hectic Bodies, they endeavour to cure watching by Emulsions of sweet Almonds and white Poppy seeds, with Broths of fat Flesh and Baths, wherein they act properly. They give red Wine for Drink. They anoint the Temples and Nostrils with Oynment of Roses and *Populeon*. They commend a Bath of fresh Water and other moistning things. We said before that they accuse the Stomach, namely, when divers sharp biting Vapors ascend from it, as it happens in malignant, and other burning Fevers, as well as in this Disease. Therefore to evacuate bile, and other sharp humors and vapors, they begin with Vomits and Purges; then they embrocate the Head, that they may alter the Brain, and repress the vapors. At last they fly to Anodynes and Narcoticks; and lest the vapors should ascend to the Head, they make Ligatures in the lower Parts.

§. 15.

THe Chymists, and among them the Paracelsists, who think (as I said before) that sulphureous and sharp Exhalations are the Cause of this Disease, commend divers Hypnoticks and Anodynes, both Internal and External, for the correcting of those Exhalations.

§. 16.

Helmont, after his usual manner, having inculcated several things about the tribe of Alkali's, of the power of the *Duumvirate*, of the Gall, and innumerable things beside, supposes the Disease to lie in the Stomach and Spleen, and the *Duumvirate* to be affected, and therefore writes, that it is better cured by Stomachicks than by Cephalicks. At first he orders a Vomit, then divers Stomachicks both internal and external; such as *Elixir Proprietatis*, Oyl of Nutmegs, and such like.

§. 17.

Willis, rejecting the unreasonable use of Opiates, which by experience he has often found hurtful, does in the most contumacious watching advise People, when they go to bed, to drink a sufficient quantity; that is, about a quart of Ale; or of Emulsion made of the four greater cold Seeds and Almonds, or of Juleps, Decoctions, &c. The rest of the Cephalicks, which we have mentioned already in other Diseases of the Head, especially in the Chapter of the Phrenzy must not be neglected.

§. 18.

Sylvius, if a waking Coma have its rise from Pain, does the business by Anodynes, both internal and external. If Passions of the Mind exagitate the Animal Spirits, and preternatural watching arises from thence, he thinks they must be appeased by the discourse of some eloquent Friend. Also the excessive agitation of the Animal Spirits must be laid, and the Mind must be pacified as much as can be by various appeasing and mitigating Medicines, of which he recounts a prolix Catalogue. But if the Disease proceed from a sharp volatil and salt humor, to correct the acrimony, he prescribes divers oily emulsions of Seeds, and various Anodynes, above all which he far prefers the anodyne Sulphur of Vitriol.

§. 19.

The Cartesians in this Disease, where kindled & boyling Bile, which causes the Blood to ferment, does predominate, do judge that it must be evacuated by Cholagogues and corrected by acids. But if the over thick Particles of the Blood cause a dilatation of the Pores of the Brain, and stimulate the acid juice from the places where it is lodged, to motion, and thereby encrease the effervescence of the Blood, then they advise things quite contrary, *i. e.* such as correct an acid, and at first Spirit of Wine above all things. And indeed the cure of this Disease, according to their *Hypothesis* does principally consist in Medicines that take off the acrimony, and repair decayed Strength, and in Sudorifics,

ficks, which by volatilizing the sharp Particles force them out of the Body.

§. 20.

Hitherto we have given you other mens Cures, now we will rather propound than obtrude our own young Experience. If therefore the Spirits be disquieted by a too great quantity of Bile, and waking be produced thereby, it must either be purged off by Cholagogues, or, if the Bile tend upwards, by Vomit; for what way Nature tends, that way we must follow. Our Cholagogue is either *Electuarium Sylvii purgans*, or Pulp of Tamarinds, Prunes, &c. For Vomits we use *Sapa Antimonii*, *Tartarum emeticum*, & *vinum nostrum emeticum*. But stronger Vomits must be given with great caution. And if the animal Spirits be put out of order by the acrimony of Bile and other humors, namely of the Serum, (which is now called *Lympha*) they must be reduced to their former state, which I have very successfully done with the following Julep.

Take of Water of Vervain four Ounces, Lettuce, Phlegm of Vitriol, Syrup of Roses each one Ounce and an half. Mix them. Make a Julep to be drunk at several times. Or,

Take of Water of Plantain five Ounces, red Poppy three Ounces, distilled Vinegar one Ounce, Syrup of Quinces one Ounce and an half, *Tartarum Vitriolatum* two Drachms. Mix them. Make a Julep.

I am perswaded Emulsions are every whit as good as the things

aforesaid; which may be made of the foresaid distilled Waters, or a Decoction of Barley, with the four greater cold Seeds and white Poppy: for they mightily weaken and dilute the volatil Salt of the Bile. I have also given with very good success Opiates, *Theriaca celestis*, *Laudanum opiatum Cydoniatum*, or made our own way by a particular *Mentruum*, *Tinctura Anodyna Zwelferi*, &c. For these things are excellent against the rage of such Diseases, because they amend the saline acrimony, assuage all Pains, cause a Stupefaction, hinder the excessive generation of Animal Spirits (which is an enemy to Sleep) and check their motion, and thereby procure kindly Sleep, as I have often found by Experience, especially when Waking came from Pains. It should therefore always be our endeavour to remove all manner of Pain, which we may do by Opiates very easily, as I have successfully observed; nor could I ever perceive the least damage thereby, whatever some men, blinded with prejudice, may say to the contrary. Yet there must be this Provision in the case, that there be no mistake in the Dose, but that it be determined exactly according to the Circumstances, especially according to the strength of the Patient. They must be given moderately, if proper to be given at all; for if you should give too much, you might either cause a worse Disease, or Death it self, and so cast out the Devil by *Beelzebub*. But if they be given seasonably, they still the impetuous motion of the Spirits, they assuage Pain, and so cause Rest, whereupon there is a decrease of the effervescence, and clearer signs of Concoction do presently show themselves.

themselves, there being a precipitation of the useful from the useless Parts, and so there is a better *Crisis* made, and a secretion of the concocted or precipitated matter, either by Sweat or Urine. And Opiates do good especially, where there is no Phlegm, but then they must be given in a small Dose. Of this nature are Camphore, *Sal Saturni*, and all narcotick Sulphurs of Metals. Half a spoonful of Tincture of *Opium* prepared with rectified Spirit of Wine would be of admirable use in this case, because by reason of its subtilty it sticks in no place, nor breeds Obstructions, but rather by raising a gentle Sweat carries the Particles of the *Opium* out of the Body. In case of weakness, where Opiates cannot be taken inwardly without great hazard, you may use them externally with safety. Among Externals, I greatly value the somniferous Mixture, which my good Father *John Dolaus*, an Apothecary, above Threescore years old, found great benefit by. It follows.

Take of *Unguentum Populneum*, *Alabastrinum* each half an Ounce, Swallows Blood one Ounce, Oyl of Nutmegs by expression one Ounce, oriental Saffron one Drachm, *Opium* dissolved one Drachm and an half, Oyl of Henbane seeds by expression of white Poppy seeds by expression each one Drachm. Make a somniferous Mixture to be applied to the Temples spread on a Leather.

I have found by experience, that all things which correct the acrimony of the volatil Salt, are good in this Disease inwardly. Hence it is that I have found so great benefit in Patients of this nature from our

Balsam of Antimony, united with Oily and spirituous things, than which I have not found any thing better for appeasing the Spirits, and taking off the acrimony from any humors. All volatil oily Salts have the same effect, especially this following, *Sal volatil: oleosum nostrum*.

Take of Salt Ammoniack, Salt of Tartar each one Ounce, volatil Salt of Harts-horn one Ounce and an half, volatil Salt of Amber three Ounces, Spirit of Urine two Ounces, Rain water four Ounces, Oyl of Cinnamon, Cloves each half a Scruple. Mix them, and destil them according to Art.

Volatil Acids do the same thing in a manner; because by coagulating the Blood more, they separate the abounding serum from it, and discharge it, when separated by Urine and Sweat. And out of volatil Acids we make choice of these, viz. *Tinctura Bezoartica Michaelis*, *Mixtura simplex*, &c. Spirit of Soot, and *Liquor Cornu Cervi succinatus*, &c. are good in this case. When the Blood is bilious and abounds with too much volatil Salt and so causes Waking, we must let Blood, especially towards the Evening, that it may the more easily cause rest.

An *Oxyrrhodinum* made of Oyl of Roses, and Vinegar of Roses, which has extracted a Tincture from *Opium*, is proper. Or,

Take of Rose-water six Drachms, Saffron one Drachm. Mix them for an Epitheme to the Temples. Or,

Take of the Marrow of a Calfs Bone, of a Stag fresh each half an Ounce, *Opium* dissolved two Grains. Mix them. Among

Among Externals we recommend Frontals, Oynments, Lotions of the Feet, Fomentations, &c. A Cataplasm made of Peach-stone Kernels, white Poppy Seeds and Womens Milk will do good. Balsams made of cooling Anodynes, Hypnoticks, and Narcoticks are good, and several other things which Books of Practice are full of, too tedious here to relate.

The Feet also may be held in a warm Bath, wherein heads of Poppy, Chamomil-flowers, and emollient Herbs are boiled, to temper the acrimony of the Blood. Let the Solés of the feet be anointed with Goat's Suet.

It is our custom to put the Patient (yet due regard had to cir-

cumstances) into a Shirt wet in cold Water, and so leave him for an hour or two, within which time, Sleep usually ensues.

Here also we must obviate other Symptomes. For a Fever we may give a sudoriferous mixture of Minerals or other Specificks, before-mentioned, to which we may add of Camphore two Grains, *Laudanum opiatum* half a Grain or a whole one, Syrup of red Poppy two Drachms. Mix them.

For Thirst we may give *Lapis Prunella*, and Camphore; or Spirit of Nitre may be dropt in Drink.

And Sleep must by all means be procured, lest the Patient fall into a Phrenzy.

CHAP. VII.

Of a Catalepsis.

§. 1. *Definition.*

A *Catalepsis* (by some called *Catochus*, by *Sylvius Prehensio*, à *Prehendo*; by some *Congelatio*, because they that are sick of this Disease are as stiff as if they were frozen; by others *Stupor vigilans*, because they that are taken with it, are void of Sense, and lose all Motion of their Body) is commonly described to be a sudden seizure of the Mind and Body, with a failure of the Senses, in which, he, that is taken with it, keeps the same posture of the Parts of his Body which he had, when he was taken; he remains sitting or standing, his Eye-lids are stiff, his Feet ready for a walk, his Hand reached out to take something; and, in a word, he is a Statue alive. This is a rare Disease, yet we have some Instances in *Hippocrates*, *Galen Comment. in 1. Prorrhēt. Marcellus Donatus*, *Schenckius*, *Sylvius*, and others. As some were going up a Ladder, one in the midst of it being taken with a sudden stupidity stuck so fast to the Steps, that he could no way be pulled from it,

but kept others from passing. *Buchanan* brings this instance for an undoubted truth, *l. 6. de reb. Scoticis*. I saw one at *Hanover* taken with this Disease, and observed all things as carefully as I could, of whom I shall give you a History presently.

§. 2.

THis Disease agrees with an Apoplexy in this, that in the one as well as in the other, Sense and voluntary Motion are lost: But it differs in this, that the Animal Spirits are not so affected in a *Catalepsis*, as they are in an Apoplexy; for they remain quiet in the external Parts, and being forced out of their place, they cannot return to their former work-house, but then exercising their power upon the Muscles, they cause a violent extension or stiffness.

§. 3. *A Case.*

Our Cataleptick was about Thirty seven years old, of a choleric Complexion, he was quarrelling

ling in his Drink and mad with Anger, he was deprived of all his Senses, as if *Gorgon's Head* at *Perseus* his Marriage had been presented to him; though he kept his Eyes open, yet he did not see; his Eye-lids were stiff; he answered nothing to any question; his Hand was stretched out to reach something. I was amazed when I beheld him. In the mean while he had so much life left him, that he was able to breathe, his Pulse continuing strong and equal, with some little motion in his Breast. This Patient was well cured by the application of proper Remedies mentioned at the end of this Chapter; however there remained some numbness in the Parts, if you call it wearisomness, you mistake not.

§. 4. Part affected.

Authors do generally agree, that the Brain, the fountain and original of motion and sense, or (if you had rather) of animal Actions, is the principal Subject of this Disease. Some accuse the Membranous substance of the Spinal marrow. Some will have the Ventricles of the Brain to be the Part affected, in as much as they being violently extended by a cold gross Matter, do hinder the ordinary motion of the animal Spirits. Most take the *Cerebellum* and the origination of the Nerves for the Part affected. *Willis* and *Sylvius* prove that the Brain is not the Part affected, so much as the animal Spirits themselves. *Fonsicca* will have it to be the Heart. *Cartes de Pass. Anima* p. 1. Artic. 31. & *de Homine* makes the *Glandula Pinealis*, the chief seat of the Soul, to be the primary Subject. For

he proves that when this is affected, the usual Functions are not so well performed.

Some of the Moderns as well as the Ancients do make the Brain to be the Subject, as it is a similar Part imbued with Spirits. *Hellmont*, that industrious Philosopher by Fire, makes the mouth of the Stomach to be the Subject of a *Catalepsis*, as it is of other sleepy Diseases. We take the *Cerebellum* with the *Appendix* of the Nerves for the Part affected.

§. 5. Diagnostick.

THE Signs of this stupendous Disease are very manifest. The Patients on a sudden are speechless, all stiff and immoveable, their Senses weak and dull, they remain in the same posture wherein they were taken; for they shut not their Eyes, if they were open before, but look stedfastly on something, to the By-standers thinking; their Eyes are for the most part open and fixt; the Eye-lids are found stiff; if the Patient were sitting, he remains sitting; if lying, he continues in the same posture. There is a suppression of Stool and Urine, respiration continues entire and unhurt, as appears by the rising of the Breast and *Abdomen*: For the Spirits come in plenty sufficient into the Organs of Respiration, and the Circulation of the Blood is still vigorous. And it appears by the Pulse being like to one natural, that the effervescence and ferment of the Blood in the Heart, are good, and that the Blood circulates freely through the Lungs. By this legitimate effervescence of the Blood, Spirits are bred in great plenty, which get into the Breast: no wonder therefore if respiration be

be free, while the Patient is as immoveable as a Rock.

§. 6. Cause.

AS many Men, so many Opinions are there about the Cause of this most intricate Disease. The **Ancients** will have the Cause to be a cold and dry intemperature of the Brain, whence it happens that both the Brain and Animal Spirits are congealed and dry. They prove by reason that a cold and dry matter, such as Melancholy, does frequently introduce this Disease. Wherefore among the remote Causes they place a very cold and dry Air, also a mixture of Phlegm and Bile, which, if they abound immoderately, may breed the same intemperature. And they do not only hold that the foresaid Humors, but that Vapors of the like nature may cool and dry, and as it were congeal the Brain and Spirits.

§. 7.

THe **Chymists** blame a narcotick Sulphur, which fixes the Animal Spirits. Some of them derive this congelation of the animal Spirits from a Mercurial Principle, and indeed from a Mercury altered and destilled by change of degree, for (they are the words of the famous *Rolfincius*) *Spodium* put into Wine congeals the outer surface of the Wine; so here the Mercury being put into a Rage by its own innate Power, congeals Bodies and makes them stiff, as Sulphur acts upon the Sword, not the Scabbard; upon Money, not the Bag. There are some of the Chymists who feign I know not what Spirit, breaking

out of the Caverns of the Earth, which turned some Country People and the Cows, as they were milking, into Stone.

§. 8.

Helmont's Followers blame the *Archeus*, as having contracted a foul Light, kindled by acid corrosive Salts. For *Helmont's* Acidity, and *Cachenius* his Acid being strangers to the Sphere of their Goodness, and becoming salvage and hostile, do make dull and fix the Powers of the Brain.

§. 9.

Sylvius proves, That the animal Spirits are coagulated, like Spirit of Wine digested six Weeks by Spirit of humane Urine. Therefore he thinks, that in a *Catalepsis* the Animal Spirits are carried every way from the Brain by the Nerves, those conveyers of the Spirits; but in some sort coagulated and thickened, and so more dull and stupid, and not so moveable and fluid, as they ought.

§. 10.

THe **Cartesians** do obstinately maintain, that this mutation can happen to such Bodies for no other reason, than that the *Glandula Pinealis* is obstructed on one or both sides. Therefore the immediate Cause consists in the obstruction of one or both sides of the common Sensory, and that in this Disease the Soul does not want an endeavour, but power to determine the Spirits. For they prove that in the Fit there is a Will to move the Parts, but that they cannot move

move them, no, nor so much as speak.

§. 11.

WE reckon that the proximate formal Cause consists in the Faculties having no power over the animal Spirits when they are impetuously let out of the Brain, and in the Spirit's not being able to get back again, because the way is by some means or other stop'd, yet still as new is bred passing in to the Heart and Breast. For from whence can that unusual stiffness of the extreme Parts be derived, but from the Animal Spirits being forced at one push into the Muscles, and so puffing them up, like a Gut or Bladder blown up, and then tied? The *Cartesians* must acknowledge as well as we, that upon hindring the influx of the animal Spirits into the Muscles, the Limbs must immediately flag, like Sails without wind. But the contrary happens in our case, as all who have sense must acknowledge.

The Limbs therefore are not here flaccid but stiff. For we see in our case, that the Patient had given himself over much to Drunkenness and Anger, upon which he fell into this Disease, with a great stiffness of his Limbs and stupidity of his inner Senses. Who can think, but it must come from the Animal Spirits being sent out too plentifully from the Brain into the Limbs, and there being intercepted in their return? Some perhaps may object, that the motion of the Animal Spirits ought ever to be determined by the Soul residing in and about the *Glandula Pinealis*. But this falls to the ground, if we say that

the Animal Spirits may stop, just as our breath does in a Bladder, when blown and tied, it remaining tumid after we have taken away our Breath, and they are fed and overcome in the Limbs and other Parts, by the Spirits that are sent to the Breast; for respiration continues free. We may prove this by the Antecedents, for no man will deny, that after Drunkenness and Anger, and other violent Passions of the Mind, the Animal Spirits are made unruly. *Platerus prax. lib. 1.* observes that a *Catalepsis* came from generous Wine: for all these things intend the flight and motion of the Animal Spirits, and invite them to a desertion of their Place. When the Patient is spoken to and he answers not, it does not therefore follow that he hears not, because he endeavours to answer; but he is not able to force the Spirits into the Muscles of his Tongue, so as to speak. The *juvantia* and *nocentia* confirm this Opinion of ours; for all Antispasmodicks do good. And that there is one Obstruction in the Nerves, it follows from these Reasons; for that the Animal Spirits cannot get back again into their old place, and because of the *juvantia*, as we said before: for all things that are able to destroy the obstructing viscid, and so to remove the impediment, are very good, such as volatil sharp Salts, &c. Of which more in the Cure.

§. 12. Prognostick.

THE Prognostick certainly declares this Disease to be acute and dangerous, while the most noble Part of the Brain is hurt, and the Animal Spirits are forced from their

their *Metropolis* and *Country*: For as (they are *Pliny's* words, l. 4. *Epist.*) in *Empires*, so in *Bodies*, the Disease is most grievous, which proceeds from the Head. An imperfect *Catalepsis*, as it is attended by milder Symptoms, is less dangerous, and the more easie to Cure, by how much more difficult a Cure one more exquisite does require. For an exquisite one is always Mortal, as it proved in our Patient.

It is incurable, according to the excellent *Sylvius*, if it seize Old Men. On the contrary, Young Men in their full strength may more easily be cured, as it happened in our case. In regard of Cure, that is safer which comes by Sympathy, than an Essential one. If but few animal Spirits remain in the Head, then the case is very dangerous, especially if the origination of the Nerves be obstructed by the viscid humor. If it come from Narcotics, in some mens Opinion it is exceeding dangerous. There is no great danger in cholerick Persons.

As to the event, it ends in safety presently, if strength be correspondent; but if that be wasted, death certainly ensues.

Aetius l. 6. c. 4. Saw a young man saved by large Bleeding at the Nose.

Ballon. l. 2. Reports how a Knight's Servant, who had been ill a long time of a double Quartan, died of a *Catalepsis*.

It often turns to an Epilepsie, Apoplexy and other soporous Diseases; and then it is dangerous.

An unaccustomed Flux of the *Menses* or *Hæmorrhoids* supervening is reckoned safe. Except a *Cataleptic* be timely cured, he will continue torpid.

§. 13. Dietetick Cure.

As to the way of Living, the Air must be temperate, serene, pure, not cold, thick, clondy, or full of showres. That Congelation, which is caused by external cold is little of kin to our Disease, unless a Man will with *Charleton* admit a Gorgonick Wind, by which, when it blows, all things that are in its way do congeal and grow hard.

The Meat must be of good juice; all salt, savoury or windy meats, all dried in the smoak, and all that are offensive to the Head, must be avoided. Wine must be small, the Beer well wrought and clear; Mede or Pilsan, or an aromattick Decoction are proper. Spirit of Wine and all rich Wine must be avoided.

Sleep and Waking must be moderate; for wherein they exceed mediocrity, they wast the Body, and instead of the animal Spirits, which they dissipate, they fill the Brain with foreign vapors.

Rest and Motion must not exceed bounds; Study and a Sedentary life are naught.

In Excretion and Retention there is a great power to cause a *Catalepsis*: for the Excrements of the Belly, Urine, Sweat, Menstruous Blood, Child-bed Purgations, Choler, Snor, and the *Lympha* retained, do putrefie, taint the Blood, and so hurt the Spirits.

As to the Passions of the Mind, the case before-mentioned declares what power they have over the animal Spirits. Anger and Fright may easily turn the Animal Spirits out of their seat, and so cause a *Catalepsis*. Thus too much joy dissipates the Spirits. We have a notable instance here at *New-Hanover*

in my Wife's Grandfather *Daniel de Latre*, Magistrate of the City, who when he saw the Siege raised from this City, was struck dumb with joy, and died immediately. *Tulpius* and *Rondeletius* have observed a *Catalepsis* from Love, all things therefore must be moderate which will last long. *Alex. Bened. l. 1. c. 6.* observed a *Catalepsis* from Worms. And *Grembs Arbor. ruinos. pag. 206.* writes how a *Catalepsis* came from an *Erysipelas* ill cured.

§. 14. Pharmaceutic Cure.

THE Ancients used in the Cure of this Disease things moderately hot and moist. But first of all they give a Clyster. Then they raise the Patient with Shoutings, and painful frictions of the extreme Parts, and give sneezing Medicines for the same end. As there is occasion, they order Spirit of Wine. They anoint the Parts affected with comforting Unguents of Oyl of white Lilies, Chamomil, Elder, Dill, Rue, and Castor. They set much by a Bathe of warm Oyl. When the Patients are come a little to themselves, they prescribe Purgatives, as *Confectio Hamech*, *Diacatholicon*, *Diasena*, *Senna*, Polypody of the Oak, and they endeavour to evacuate the peccant matter by Vomits. Afterwards, Strengtheners, Resolvents, and Correcters of the intemperature that is left behind, sc. *Theriaca Andromachi*, *Diamusc. Latificans Galeni*, and Conserve of Bugloss roots, compleat the Cure. It is their advice carefully to abstain from four things in this Disease.

§. 15.

THE Chymists do in this as in all soporous Diseases, highly ex-

toll Tincture of Gold, Liquor of Amber and Mosch, they also commend the Magistery & Oyl of Pearl dissolved of each half a Scruple with Syrup of Cinnamon, and other Arcana, as the Spirit and Sweet Oil of Vitriol.

§. 16.

WATILLIS does in this and in an Apoplexy commend all manner of Cephalicks, which, because we have already mentioned them in the Chapter of an Apoplexy, we shall now pass over.

§. 17.

SPIBIUS says, a *Catalepsis* is difficult to cure, unless it go away of it self. Yet he thinks that the Cure of this Disease may be obtained by Medicines endued with a sharp volatil Salt, such as are all sharp and aromatick Plants. We will add one Composition according to his mind, which is a volatil oily Salt, and certainly an excellent Medicine.

Take of the volatil Salt of Rue or Thyme three Ounces, of the fixt Salt of the same two Ounces, the distilled Oyl of the same three Drachms. Make a Soap of them, and digest them in a gentle heat; afterwards sublime them in a Glass Phiol into a volatil oily Salt.

§. 18.

THE Cartesians endeavour to remove the Obstruction of the *Glandula Pinealis*, and to promote the motion of the animal Spirits. Wherefore they mind the animal Spirits of their duty by using divers

divers Remedies both inward and outward, and they stir up and provoke them to represent divers strong motions to the Mind, that in this manner by briskly moving the *Glandula Pinealis* on the obstructed side, the remainders that lye in the obstructed Pores, may be got out; partly also that being made more ready in the obstructed side to carry the violent motions of the external Senses, they may break their Prison and remove the Obstruction, if not presently, yet at least gradually, and may set the Soul at its ancient liberty. To this end they prescribe all manner of volatil Salts, such as volatil Salt of Harts-horn, of Soot, Spirit of Harts-horn, *Elixir vitæ Matthioli*, *Aqua Anhaltina*, and other cephalick Waters, which strengthen the Brain and the *Glandula Pinealis*, the Seat of the Mind. They highly commend violent motions and frictions of the Body with hot and rough linen Cloths, and plucking and combing the Hair, and potential Cauteries; they advise the holding of strong smelling things to the Nose, as Castor, and Spirit of Sal Ammoniac, &c.

S. 19.

WE reckon the Cure of this Disease should be directed to check in some measure the impetuous motion of the Spirits into the Muscles, and to help the recourse of them, which is hindered; for *Wedelius* in *Physiolog. Med. p. m. 57.* holds That there is a circulation of these Spirits, and that it may be hindered. This Recourse is hindered because the passage is stopt, by which the Spirits went out: And this way is obstructed either by a Tartareous, or by a viscid tough Matter, as we

said in the Cause. Therefore all Remedies are proper, which are able to incide or attenuate any viscid Matter, and to evacuate it, as there shall be occasion. Among which things sharp volatil Salts, either aromack or oleous do excel, which by penetrating do most powerfully attenuate and dissolve all viscidities and obstructions which they meet with. Wherefore we gave Spirit of Sal Ammoniac destilled with Aromaticks, as Cloves and Cinnamon, to our Cataleptick, as a great secret, and with good success; now and then we gave *Sal volatile oleosum Sylvii*, and *Liquor Cornu Cervi Succinatus*. Nor would we neglect Evacuaters in such as are strong. Among others, take this following Receipt.

Take of Conserve of Roses two Drachms, Resin of Jalap ten Grains, *Elaosaccharum feniculi* half a Drachm. With Syrup of Cinnamon make a *Bolus* according to Art. Take it at one time; Or, Take of Extract of black Hellebore, Leaves of Senna each half a Scruple, Oyl of Amber one Grain. With Spirit of Lily Conval. make Pills according to Art.

Here also, as in an Apoplexy, the Cure must be begun with Clysters; because sometimes the Patient can take nothing else.

Vomits also, as there shall be occasion, are good to discharge the Stomach of the filth lying in it. For the sake of young Beginners, Take the Receipt following.

Take of *Tartarum emeticum Mynsichti* three Grains, Salt of Wormwood, Tamarisk each two Grains, Syrup of Raspberries two or three Drachms. Mix them.

I do not at all doubt, but in this Disease a contumacious Obstruction, and a total interception of the animal Spirits may be caused divers ways: For it is well known to curious Anatomists, that there are Valves in the Nerves, which being shut, there is no regress for the animal Spirits, and this is the reason, why I, as well as the great *Sylvius*, think that many cataleptick Persons cannot be recovered. And here volatil Alkalies are far better than fixt ones. For the sake of young Beginners, I shall communicate a Process or two.

Take of Sal Ammoniack purified, Tartar each one Ounce, volatil Salt of Harts-horn three Ounces, Spirit of Urine two Ounces and an half, Rain water destilled four Ounces, Oyl of Cinnamon, Cloves each ten Grains. Mix them and destil them according to Art. Or, Take of rectified Spirit of Wine six Ounces, Oyl of Cinnamon, Thyme, Mace each two Drachms, Fennil half an Ounce. Let them stand mixt for some time, till the Spirits have soaked up the Oyls, then add of the best Spirit of Sal Ammoniack three Ounces. Mix them, & destil them out of a long Phiol in Sand. Keep it for Use.

I got great credit by this *Arcanum*. If there be malignity besides, we add Alexetericks and Alexipharmacks. I question not but these following will do good.

Take of Diaphoretick Antimony half a Drachm, volatil Salt of Amber six Grains. Mix them for a Paper at one time. Or,

Take of Bezoarticum Lunare six Grains, Cinnabar of Antimony

three Grains, Conserve of Roses, of Clove-Gilly-flowers each one Drachm. Mix them. Make a *Polus*. Or,

Take of Bezoarticum minerale half a Scruple, volatil Salt of Vipers two Grains. Mix them, and give them.

Take of *Aqua hirund. cum Castoreo*, Water of Betony, Linden-tree Flowers each one Ounce, *Sal volatile oleosum Sylvii* one Scruple, Syrup of Peony six Drachms. Mix them, and give them. This following also will do good.

Take of red Coral prepared half a Drachm, leaf Silver finely powdered eight leaves. Mix them. Make a Powder.

Our Lunar Spirit also is very good. I am periwaded that Cinnabarines have altogether as much Virtue in them. Some cry up new Experiments, which I designedly pass over, lest I should reveal what was committed to me as a Secret. It is good to anoint the *Spina dorsæ*, and the Neck with these things following.

Take of the fat of Bever, *Balsamum Apoplecticum* each one Scruple, destilled Oyl of Rue ten Grains, Oyl of Dill by Decoction half an Ounce. Mix them. Or,

Take of Oyl of *Iris*, of Earth-worms each two Ounces, Castor powdered four Scruples. Mix them. Or, use *Balsamum spasmodicum Mynsichti*.

Particular Evacuators, which respect the Head, and are therefore called Purgers of the Head, are not to be neglected, as Errhines, and Sternutatories, among which white Vitriol put into the Nose with Marjoram Water, is best. But the Physician

sician must have a Care, that he do not quite eject the remainder of the spirits from the Brain, and so hasten the Patient's end. Caps quilted with aromattick Herbs may be used, and Leeches may be set to the crown of the Head warm. I must commend Bathes as fittest to dissolve tartarous Mucilages. In defect of natural we may make artificial ones, of which we have treated before. Rubbing with warm and rough Linen, plucking the Hair, and combing often answer expectation. Cauteries both potential and actual may be used, for they operate powerfully; and above all we prefer *Moxa*, which applied to the crown of the Head is a present Remedy in this Disease, as *Geilfusius junior* in his Discourse of *Moxa* does prove, not

only by Experience, but by Reason. You may see the rest of the Cephalicks and Antispasmodicks in the Chapter of the Apoplexy: For we cure this Disease as an Apoplexy; and we may well call it an *Apoplexy inverse*, since in an Apoplexy the way is stopt from the Spirits within the Brain, to the external Parts, upon which all the Limbs flag, like Sails without wind; But in a *Catalepsis* the animal Spirits are so detained in the outer Parts, that the Brain flags. And any one that will peruse Practitioners, whether old or new, will find that this Disease is cured with the same sort of Medicines, that they cure an Apoplexy withal. For when the Obstruction is removed, the Disease is cured, *Velut ruunt subductis testæ columnæ.*

H; CHAP.

CHAP. VI.

Of a Vertigo, or Swimming in the Head.§. 1. *Description.*

A *Vertigo* is so called from *vertendo*, or from *vortex*. The Greeks, if it be a simple one, call it *Σκότωμα* and *Δινοῖσις τῆς Νυνς*; but, when it is accompanied with dimness of Sight the Ancients called it *Σκοτόδινος* and *Ἰαλυσος*. It is defined, or rather described, to be a hurt imagination of an apparent turning about of the Head and Objects, sometimes simple, sometimes with dimness of Sight, depending upon the disorderly motion of the Animal Spirits in the Brain. All do unanimously conclude, that here the Imagination is depraved, because the Phantasie and common Sense of those that are raken with this Disease, think that quiet Objects do move; yet, they say, the Judgment is sound, because the Patients understand this their error: And all ascribe this fallacy to the disorder of the Animal Spirits. Therefore the *Vertigo* is a Disease wherein both the Head and all things else seem to turn round; and because the Spirits do not rightly influence the external Parts; the Patient falls down, unless he hold by something. But of this, more in the Cause.

Difference.

A *Vertigo* is either Essential, when the Cause is in the Brain, which you may know by the Disease's continual affecting of the Patient; or by Consent, when the Cause, that disturbs the Brain, lies in some other place, may be, in the Spleen, Womb, Stomach, or some other Part. And the Consent of these Parts is deduced from a subtil extension of the Vessels; rather to be conceived in the Mind than expressed in words, by reason whereof, one Function certainly does so exactly correspond with another, that upon the ignoble Part's being hurt, the most noble are hurt and in pain; just as in a Musical Instrument, when a string is down or broke, the whole Harmony is spoiled. And one may guess the same to happen in the Nerves and nervous Fibres, upon excessive loosening, stretching or breaking of which, the whole Symmetry is marred, and abundance of Diseases follow.

§. 2. *Subject.*

THE general Opinion of Authors is, that both the Ventricles and Substance of the Brain are the Subject of this Disease. According to

Willis, the animal Spirits, which are very much disturbed, are the immediate Subject of this Disease; and the mediate one is those Parts of the Brain, wherein imagination and common sense reside. And these according to him are the *corpora callosa & striata*. The **Cartesians** blame the porous substance of the Brain as the Part affected. But I take the Disease to lie about the *Corpora callosa* and *Striata*.

§. 3. *Diagn stick.*

AS for the *Diagnosticks*, in a *Vertigo*, either darkness, or some colours, appear in the Eyes of them that have it; sometimes Flies appear; and all things seem to turn round with them, so that they must fall, unless they take hold of something near. Several fall to the ground, and cannot raise themselves, till the Fit be a little over. For it often happens, that they who are taken with this Disease, fall to the ground, without turning their Body, just like them that have often turned themselves round. I saw a vertiginous Person full of gestures in his Fit, he jumped up with his hands stretched out, as if he would catch flies, and at last fell to the ground, and that all the while his Fit lasted, he could not stand upright, but crept along. From once turning round, some suffer as much as others at several times; yea, they that are troubled with this Disease, are in the same condition, if they see another turn round, or a Wheel, or any thing else; or if they look from on high. And if the Disease be Ideopathick, then there has proceeded the Head-ach, or dulness in it, hurting of the smell or taste, ringing of the Ears,

and there is no sign of any other Part being hurt; But if it be by Consent, viz. from a depraved mass of Blood, or hurt of the Stomach, Spleen, Womb or *Hypochondria*, then Squeamishness, Heart-burn, and loss of Appetite have proceeded. If it proceed from any other Part of the Body, it will appear from the proper signs, as from the *menfes* being stopt, and a prudent Physician will find it out. This Disease uses often to afflict People at certain times.

§. 4. *Cause.*

IN the Judgment of the **Antients**, this Disease arises from abundance of hot and spirituous Blood, and they support themselves with this, that a *Vertigo* often takes its rise from acute Diseases and Burning Fevers. And they hold, that sometimes it is caused by crude Humors, which now and then are malignant, and are bred either in the Head or in some Part of the Body below, most usually in the Stomach, Spleen or Womb, because of the communication that these Pores have with the Head. All the Grecians in a manner ascribe the Cause of *Vertigoes* rather to vaporous, halituous & spirituous fumes, than to thick and gross Humors, asserting that accustomed evacuations suppressed, and all Humors in general which send out many Vapours, windy, dry and hot, turbulent and malignant Spirits, may cause a *Vertigo*. For these Vapors and Spirits (say they) by their motion move the Animal Spirit (which is thought to be the vehicle of the Soul) round, or some such disorderly way; so that the man verily thinks that is done without him,

him, which is done within him, and the judgment of the Imagination is perverted, which makes a Man think he turns round, and sometimes that he is falling. They will have the said Vapors to roul round, just as flame or smoak roul round an Oven, while they have no vent. The Schools say also, That this Disease arises from the hot intemperature of the Brain it self, because when it is hot, it may draw many Vapors, and put the Humors in a heat or ferment.

§. 5.

Paracelsus and his Followers say little of the Nature and Causes of this Disease. Yet many of them fly to a Mercurial principle, some admit also of a Saline one. Quercetan and others say, That Vapors and Exhalations proceed from resinous, tartareous and sulphureous Humors contained in the Stomach and other Parts, or rather from the unctuous and sulphureous substance of the Blood.

§. 6.

Helmont in a *Vertigo* blames a turning or whirling faculty proceeding from the Stomach. For according to him, eating of some certain Meats has caused a *Vertigo* (as his Writings testifie) and particularly towards Evening, that is, before they were yet concocted. He says, we may believe him, that every *Vertigo* creeps from below, without Vapor or Fume; and that the Head is governed by the Stomach. Also *Cap. 9. Tex. 86. de Lithiasi*, he says, a *Vertigo* is caused by an inebriative Poison, such as is Smoak of Tabaco.

§. 7.

Willis thinks the conjunct Cause of this Disease to be a perturbation of the Animal Spirits, raised by heterogeneous Particles and troublesome Spirits, which lye either in the mass of Blood, or in other Humors. For the vertiginous Particles insinuating themselves into the midst of the Brain, darken the Spirits. Things that remotely do very much contribute to the breeding of this Disease, are the way of Living, all cacochymick Blood, the Scurvy, long and malignant Fevers, which cause a dyscrasie of Blood, and easily afflict some part of the Spirits.

§. 8.

The Sybians in this Disease blame the Animal Spirits, disturbed more or less, which are confusedly and vertiginously forced to the Eyes and Organs of Touch.

§. 9.

The Cartesians say, the *Vertigo* is a Disease, in which all things near seem to be carried round, by the depraved, that is, circular, Motion of the Animal Spirits; and that, because the Humors and Blood are so exagitated, that the roots of the Nerves are affected, and so one pressing another, all visible Bodies seem to turn round. And this compression they prove, comes from the badness and abundance of Blood; because Plethorick persons complain most of this Disease by reason of the compression of the Pores of the Brain, whereupon the Animal Spirits cannot pass the Brain and its Pores in a right line.

line, but rebounding one upon another, wheel round, and move circularly. As *Antonius le Grand*, p.8. *Instit. Philos.* Art.22. §.12. Discourses at large of this among other Matters

§. 10.

W^E think that a *Vertigo* is a little Epilepsie: For a caliginous, caducous *Vertigo* is in young Men a fore-runner of the Herculean Disease, as it is in old Men of an Apoplexy. It often happens that a malignant Character is impressed upon the mass of Blood and Animal Spirits, through the fault of some private part, whereupon the Spirits betake themselves to the *Corpora callosa & Striata*, and being disorderly sent out thence, it cannot otherwise be, but that they must whirl round. And having found that way, the rest of the Passages and Ways are forsaken, and so a *Vertigo* is caused; which is the more probable, because upon a man's turning himself often round, the whirling round of the Spirits continues a good while after he has done turning, because the Spirits continue their former course. The remote Cause of the Circumgyration is this, When foreign and hard Particles being carried to the Brain do yet stop up the right passages about the optick Nerves in the Brain, they do still keep their old by-way, and cause this disturbance. And this may serve for a Reason, That in Drunkenness a *Vertigo* proceeds from too great effervescence of Blood, in that by the despumation of the subtil Parts, and separating of the grosser, some of both are carried to the passages of the Brain, (for we see, how in all fermentation of Wine or Beer, sulphureous, fœculent and tartareous

Parts are cast out with the subtil) which terrestrious and crude Parts obstruct the Pores of the Brain, so that the Spirits cannot proceed and irradiate freely, whereupon they rebound, and whirl round, just as when one Wind meets with another, or is stoppt, a Whirlwind is caused. Sometimes this Disease arises from a hot Cause, but it is by accident, inasmuch as it gives brisker motion to the Blood (like Wine in Drunkenness) and so more Blood is carried to the Head, and more Spirits bred, than can conveniently be distributed by the Nerves, which makes them turn round and cause this Disease. As I am writing this, a new Reason comes into my Head, which is this, Because, in Scorbutick Fevers, in Dyscrasies of the Blood and Humors, when men abound with divers heterogeneous Particles, as well sulphureous as saline, a *Vertigo* is occasioned, where any one may plainly see that the way is obstructed by these Particles. But as for that *Vertigo*, which is caused by Consent, especially of the Stomach (for many upon fasting are troubled with this Disease) the reason of that is, not because sharp Vapors get up into the Head and darken it, (which error of the Ancients has long since been exploded) but rather because some sharp, pungent, & aculeate matter lodging in an empty Stomach, when it is idle and has nothing else to do, causes a vellication and shrinking of the nervous fibres of the Stomach, which vellication or shrinking, as all other spasmodick motions are, is communicated to the Brain. Where, upon the motion of these Fibres, the Animal Spirits are disturbed, the motion of the Blood is quickned, and (if I may

so say) a despumation of the vitious Particles is made, whence naturally ensues the Obstruction of the Optick Nerves; and when they are obstructed, the Spirits move disorderly, which is the rise of this Disease. It arises also from sailing in a Ship, riding in a Coach, looking from on high, and such like things. A caliginous *Vertigo* seems to have its original from defect of Animal Spirits, and their depraved motion; because enough of Spirits cannot be found to fill the optick Nerve and the Eye, which a very little will usually do: Hence it is apparent, why People commonly have a *Vertigo*, before they fall into a Swoon.

S. II. *Prognostick.*

WE will now pass, from the consideration of the Causes, to the Prognostick. A *Vertigo*, if it last long, threatens either an Apoplexy, Falling-Sickness, Madness, or some spasmodick Disease; wherefore so pernicious and daring an Enemy must not be slighted. The generality of Practitioners, according to their great observation, do hold, That they who in a *Vertigo* see green or purple colours, are most enclined to the Falling-Sickness; they who see red, to Madness; and they who see black, to an Apoplexy.

But every *Vertigo*, while it is new, is usually without danger, and easie to be cured, as well as other Diseases in the beginning: And so is that which comes from Drunkenness either with Wine or Tobacco. But, not to be too tedious, let the curious Reader consult *Hippocrates*, in whose Store-house there lies much in a little room.

S. 12. *Dietetic Cure.*

NOW we will proceed to that part of the Cure, which consists in the Six Non-naturals, as the true Sons of *Æsculapius* call them.

Make choice of a serene temperate and clear *Air*; whence we may easily conclude, that an impure, cloudy, cold, and corrupted *Air* must be avoided. Who is there, that finds not the state of his Body as wavering as the Wind? When the North-east Wind blows, as the *Air* is cleared of Clouds, are not the noxious Humors in the Body wasted, and cloudiness of Spirits dispelled? But, on the contrary, if the opposite South-west point blow, how greatly does it often damnify mens Health?

Eat *Meat* of a good juice, and easie of digestion, not windy, nor sharp. Avoid therefore all sorts of Pulse, Beans, Pease, and Lentils. Eating in the Morning, especially a Toast dipt in some rich Wine or Sack, (which *Helmont* himself did when he was vertiginous) is good to soak up that sharp matter, which often vellicates the Fibres of the Stomach, and causes this Disease. For here we must have as great care of eating too little, as of too much. Moderation is best.

Let the *Drink* be small Wine, or mixt with Water, or *Spaw Waters*. You must not therefore drink muddy Beer, that is not well wrought and too full of Hops; nor much strong Wine, because it augments the fermentation of the Blood, and thereby sends many crude Particles to the Brain.

A little *Exercise* is good; but *Rest* is rather proper for the Head.

Mode.

Moderate Sleep is proper ; but Watching is naught.

The Excrements of the Belly must be promoted every day, either by Art or Nature. The case is the same in the usual Fluxes of the *Menses*, Hemorrhoids, &c.

The Patient must allow of no Perturbations of Mind, such as Anger, Sorrow, &c. because they very much prejudice Mens Health.

§. 13. Pharmaceutic Cure.

Now let us pass to the Pharmaceutic Cure. The Ancients encountered this Disease with Evacuators ; and they used these that follow. Syrup of Roses made with many Infusions, *Diaprunum solutivum*, *Diacatholicon*, *Hiera picra*, *Diacolocynthis*, *Pilula cochiae, aurea, Arabica, Mastichina, sine quibus esse nolo, de 3 generibus myrobalanorum*. If you would have Simples, Take Tamarinds, Rhubarb, Manna, Senna, Polypody, Dodder of Thyme and Agarick, of which you may make several Medicines. When they think it proceeds from the Stomach, they give the common Vomits, which every one knows. Then they fly to Revellents and Diverters. If the Disease proceeds from Blood or hot Humors, they bleed in the cephalick Vein, and repeat bleeding sometimes. Among Revellents they reckon Clysters, Frictions of the Limbs with a rough linen Cloth warm, and Cupping glasses applied to the more remote Parts. They open the Hemorrhoid Veins, provoke the *menses* ; nor do they neglect Sneezing-Powders, Gargarisms, Apophlegmatisms and Blistering with Yeast and Vinegar. They highly value an Issue on the top of the Head. They extol Errhines of

Juice of Sowbread, or Pimpernel thrust out of the Hand. These things premised, they use things to stop the turbulent motion of the Spirits, such as Syrup of Quinces, Pomegranates, Sugar of Roses, Juice of Barberries, *Diacydonium*, distilled Water of Lettuce, Violets, Plantain, &c. In a hot Cause they say it is good to smell to Camphore, Roses, Vinegar, Oyl of Roses, &c. They frequently use washing the Head with Oyl of Roses and Vinegar, and Embrocations and Bathings. Their Medicines to strengthen and dissolve the remainders, are Syrup of Apples, *de Stachade*, Conserve of Borage, Bugloss, Sugar of Roses, *Diatragacanthum frigidum*, *Diatrion santalon*, *Diamoschu dulce*, Decoctions of Leaves of Betony, Mint, Rosemary, Sage, *Stachas*, Centaury the less, Galangal, Cinnamon, Seeds of Fennil, Anise, &c. They commend smelling to *Nigella*, Majorane, Castor, and such like things. And, to comprehend all in short, First of all they give a Clyster ; then bleed, if nothing hinder ; then perfectly purge off the Humors that are peccant, and that breed peccant Vapors ; afterwards they divert the violence of the Vapors, by Frictions, Cupping-glasses, and Scarifications. In the beginning of the Disease they order Astringents, to hinder the ascent of Vapors to the Head, which they blame so much. For instance,

Take of Rose Water three Ounces, Vinegar two Ounces. Mix them for an Epithem,

Last of all they strengthen the Stomach and Head, and disperse the remainders with Masticatories, Purgers of the Nose, &c. But if the Disease

Disease depend upon the Womb, they use *Castor* and other Uterines. When the swift turning or motion of things causes it, they must not look on such things. What Remedy must be used, when it comes from fasting, we have told you before. If the Disease have its rise from the suppression of any usual Evacuation, it must be promoted.

§. 14.

WE have heard the Judgment of an innumerable Company of the ancient Practitioners, now we proceed to the *Paracelsists*, who observe the same Method of Cure here that they do in the Epilepsy, of which we shall Treat in the following Chapter. Therefore in this Place we will only lightly touch upon such Things as are proper to this Disease. One of their chief Remedies is the Sulphur of Vitriol, to which some of them affirm the Tincture of *Luna* to be equivalent in Virtue, and this they defend with Might and Main. *Crollius* a Follower of *Paracelsus*, commends his Master's *Elixir Proprietatis*, and gives it in Water of Peony or Borage. Others give to drink with good Success in Water of the Flowers Lily of the Vallies, Salt of Amber and Pearls.

Amongst external Things they reckon the Apoplectick Balsam of Rue, Amber, &c. Also some almost ridiculously write, That the Fat of Deers and Serpents rub'd on the Temples, has a peculiar Virtue from the Signature or Character of curing this Distemper; because those Creatures climbing up high Rocks and Precipices are never affected with it. Others as simply affirm the Quintessence

of a Stork to be likewise very good.

§. 15.

IN the *Vertigo*, and in all other Distempers of the Head *Helmont* highly extols Vomitories, and in like manner the volatil Salts of all sweet Stomachicks and Cephalicks, as of Sage, Marjoram, Rosemary, Clove-Gilly-Flowers, Cinnamon. Thus this Author cur'd himself by taking a Vomitory, and drinking little Wine with his Meat, by means of which his *Vertigo* immediately ceased; and after he had many Times suffered a Relapse, he was in the End, by often taking Sulphur of Vitriol, perfectly cured.

§. 16.

Willis's Therapeutie Method of Cure in this Distemper, is as follows. In the first place, for the dispersing all the Clouds of the Brain, and composing the Disorders of the Animal Spirits, he commends all Cephalicks, as Coral, Amber, Man's Skulls, Roots of Male-Peony, Mistletoe, Peacocks Dung, &c. the divers Prescriptions of which we are not minded to set down here, but rather to refer the Reader to the Author himself. Therefore that the Brain may be freed from all the Inundations of the morbid Matter, Venesection is very good, and often to give a gentle Purge. He advises to make an Issue in the Leg or Arm, as also to open the Hemorrhoids with Leeches. He orders the Temples and fore-Part of the Head to be well washed every Morning in cold Water, and to be rubb'd with a rough Cloth. To take away any Dyscrasy

crasy of the Blood he uses temperate Antiscorbutic Alterers, as Occasion requires, and Chalybeat Medicines, Iron-Waters and Whey. That the Animal Spirits may be made pure and clean, the sick Person must every Day take such Medicines as consist of a volatil Salt, whose Particles are very subtle, such as Spirit of Harts-horn, Soot, *Sal Armoniac*, either simple, or impregnated with Man's Scull; as also the Tincture of Coral, Amber, Antimony, Elixir of Peony. Nor does this Author neglect Vomitories prepared of Salt of Vitriol, or Sulphur of Antimony, which he very highly extols, as also Clysters, and Vescicatories to the Neck.

§. 17.

THE Method of the famous *Sylvius* in curing this Distemper is thus. His first Endeavour is, to reduce into a tranquil and quiet State, the Animal Spirits disorderly hurried up and down, and representing to him that is vertiginous, external Objects as turning round. To which End he orders Anodynes, and to better Purpose Narcoticks, but in a less Quantity. *Ex. gr.*

Take of the Water of the Flowers of the Linden Tree two Ounces and an half, Antiparalitic or Anti-epileptic Water one Ounce, *Laudanum opiatum* three Grains, Syrup of French Lavender one Ounce. Mix them, and let the Sick Person take a Spoonful or two till the *Vertigo* be corrected.

Nor does our Author despise volatil Salts and Medicines of Castor, and also Vescicatories and Vomitories, as we have it from his own Mouth,

§. 18.

ACCORDING to the *Cartesians*, Care must be taken in the very Fit, how the Animal Spirits may be reduced into their former Order, which they assert may be done by several Spirituous Things which unlock the obstructed Passage, and likewise by Cephalic and Aromatic Balsams. But if the Distemper arise from a Plethory, they order Venesection, and prescribe other aqueous Things. But if the Mischief has its Original from a foul Stomach (which ceases by eating) as to Pharmacy, they call to their Assistance Vomitories and Medicines of Quinces, no less than they do Meats that are somewhat hard, as a Crust of Bread, or the like; for hereby that sharp Humor which lurks in the Stomach, and some Way or other boils and ferments of it self, and like Daggers, Needles, Lances, or Razors cuts and pricks the little Fibres of the Stomach, is corrected, and those sharp Particles are obtunded by being rubb'd and beat against by those Medicaments and Aliments. Out of the Fit, that the morbid Matter may be prepared, they use divers Digestives and Alteratives, after that either by Vomitories or other Catharticks they throw forth the peccant Particles.

§. 19.

NOW we have a Mind to insinuate Our own Way of Cure. We are not arguing here either for *Galen*, *Paracelsus*, *Helmont*, *Willis*, *Sylvius* or the *Cartesians*, but only for the Truth; for according to that trite Saying; *We Love Plato, we love Socrates, but Truth is dearer to us than*

than both. Now this is principally to be endeavour'd, That the Animal Spirits whirling round, be reduced again to their pristine Condition. If therefore the Enemy make an Invasion armed with Swords, Spears, Lances, and other sharp Weapons, and begins to show himself openly in the Stomach, he must be engaged with Vomits and altering *Alcali's*, and in this Case volatril *Alcali's* have much the Preference of the fixt, as being able both to absorb the Acid, and obtund its Points. Hence it is that *Liquor Cornu Cervi Succinatus*, and that excellent Remedy of *Schefer*, *Balsamus nervinus*, are so beneficial to those that are troubled with a *Vertigo*. All Spirituous Things are good in this Disease, because they dull and obtund the conglomerated Particles by hard rubbing against them. Furthermore, all Epileptic Waters are available, and other saline volatril Liquors, especially if they be sharpened by Camphore, and temper'd with the Essence of *Opium*, as Occasion requires: For if *Opium* and Camphore be mixt together, they have a singular Virtue in hindring a future and imminent *Vertigo*. And hence it is that the ingenious *Craan* magnifies his camphorated *Laudanum*, wherewith in Fevers and many other Diseases he does Wonders. Let this be a Prescript for Beginners.

Take of Epileptic Water an Ounce and an half, Flowers of the Linden Tree two Ounces, Spirit of a Woman's Secundine one Drachm, *Elæosaccharum* of Amber half a Drachm, *Laudanum* camphorated four Grains, Syrup

of Betony an Ounce. Mix them, and take it by Spoonfuls. Or, Take of Water of Lily of the Valleys, drawn off Wine one Ounce, Spirit of the same a Drachm and a half, the Spirituous Water of Chervil two Ounces, Peacocks Dung one Ounce, Essence of Chervil a Drachm, Syrup of Betony one Ounce. Mix them, and give it by Spoonfuls.

The following Scotomatic Tincture is excellent.

Take of the Flowers of Peony, Lily of the Valley, of each half an Ounce, Rosemary three Drachms, Sage, Betony, Linetree of each two Drachms. Let them be digested in twelve Ounces of Spirit of Man's Skull impregnated with its Salt.

Amongst fixt *Alcali's* we reckon all earthy Things, as Chalk, red Coral, Amber, Crabs Eyes, Vitriol of Mars, Sulphur of Vitriol, the absorbing Powder of our most experienc'd Colleague *Wedelius*, and also this that follows, which very well deserves to be preferred before all other Remedies in curing this Distemper.

Take of Crabs Eyes finely powdered, Vitriol of Mars, *Species Diarrhodon Abbatis*, *Aromaticum rosatum* of each one Drachm, *Laudanum camphoratum* three Grains. Mix them, and make a Powder. The Dose is from half a Scruple to half a Drachm. Or, This following Powder.

Take of the Powder of the Root of *Doronicum* two Drachms, the cephalic Specific a Drachm and a half. Mix them. The Dose

is a Scruple at Morning, Noon and Night. Or, Take of Essence of Chervil, Flowers of Rosemary of each two Drachms. The Dose is twenty Drops. Or, Take of the Powder of the Root of *Doronicum* two Drachms. With a sufficient Quantity of Sugar make round Lozenges. Or, Take of the Root of Florentine Orrice, *Doronicum* of each one Drachm, Flowers of Lavender, Betony, Cardamoms, Cubebs of each two Scruples. With a sufficient Quantity of Sugar make Tablets.

Apoplectic Balsam mixt with Balsam of Marjoram is a great Preservative. But I am unwilling to spend any more Time in transcribing and raking together these Receipts. That excellent Remedy, the volatil Spirit of Vitriol, given to the Quantity of ten Drops or more, every Morning, is good for Prevention. Also Nitrous and Iron-Waters are of great Use, because they dilute the Blood. We likewise prescribe Clysters and other gentle Catharticks, as *Pil. de Succino*, with some Grains of Magistery of Jalap, or Wine medicated with Specificks.

I know by Experience, that the Juice of Chervil took in Broth, is a Specific in this Distemper. Also its Water thrice rectified may be given often. And likewise a Water distilled out of the Brains of Sparrows and a Calf is found to be commodious.

If the Distemper arise from febrile Reliques, and a Scorbutic Dyscrasy of the Blood, these Things are to be corrected and amended by divers Antiscorbuticks, of which we discourse more at

large elsewhere. But in the first place Venesection, in this Case, should be often repeated. If the Mischief arise from Obstruction of the *Menses* or Hæmorrhoids, they are to be provoked; If from Poison, then we must encounter it either with Vomitories or Alexipharmacks; If from sailing in a Ship, riding on Horse-back, looking down from an high Place, these are all to be removed, and a Vomit to be given. Thus the honourable Boyle in his Experiments concerning Colours, says, he successfully cured a Vertigo got by being toss'd on the Sea, by an Emetic Potion; as likewise did Segerus, in *Ephem. Germ. An. 3*. If it proceed from being drunk, it will go off on its own accord; but for the future let the Sick Person beware of such Excess. The following little Bag is to be held to the Nose.

Take of the Powder of the Root of *Doronicum*, Florentine Orrice, of the Flowers of Lavender, *Lignum Rhodium* of each an equal Quantity, Spirit of Lily of the Vallies one Scruple. Mix them, and make a little Bag.

Vesicatories, Frictions, Baths, Arteriotomy, Cupping-Glasses, Leeches, Scarrification, and other Things of this Nature are not to be neglected. When the Fit is violent and comes often, and does not give Way to usual Remedies, that the Patient may not be in Danger of his Life, we principally commend the Infusion of the Liquors of volatil Salts, and such other Things as the Case requires, according to the Advice of the worthy *Ettmullerus*, especially if it comes from a malignant Impression made on

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on the Spirits and Mass of Blood. We have often known an actual Caution, viz. burning the Top of the Head with *Moxa*, to have had good Success in a desperate Case. To the Nostrils and Top of the Head you must apply Epileptic Waters and Balsams; as Balsam of Rue, or the Apopleptic of Amber. Also the Top of the Head is to be anointed with several Oils. And you may externally in the Fit use this Receipt which follows.

Take of Water of Lily of the Val-
lies half an Ounce, Spirit of the
same one Drachm. Mix them,
and give it.

But seeing we are to treat more
largely of these in the following
Chapter, we neither have any Mind,
nor is it convenient for us to insist
any longer upon them, lest we be
guilty of a tiresome Repetition,
and of forestalling the curious
Reader.

CHAP.

CHAP. IX.

Of an Epilepsy.

§. 1.

The Names and Definition.

TO be brief about the Names of an Epilepsy, we call it in English, *The Falling Sickness*, in Latin, *Morbus Caducus*, *Sacer*, *Comitialis*, *Lunaris*, *Sonticus*, *Herculeus* and *Herculanus*. And it is commonly defined to be, *A Convulsive Motion of all the Parts of the Body, especially of the Hands and Feet; not perpetual, but coming at certain intervals of time, with the hurt of the Senses both internal and external.* This Disease has its name from the most urgent Symptom, which troubles a man most in this Disease; for on whomsoever this Disease exercises its cruelty, it takes them on a sudden, and casts them down and lays them flat, as if they were Thunder-struck, and commonly deprives them of all Sense and Motion. There is also a trepidation of the Nerves, all the Parts quiver with a secret violence, the Limbs are contracted and drawn aside, there is a gnashing of the Teeth, and froathing at the Mouth, and that usually, when the Fit is at an end: There is oftentimes a shaking of the Head, and a terrible falling of the Body to the ground, sometimes

the Arms and Legs, as also the Neck and Back are stiff, or turned this way and that, with various distortions.

§. 2. *The Difference.*

THE Differences taken from the Causes, are by the common consent of Authors reckoned two. For either, (1.) It is taken from the place, when the Brain is affected Idiopathically, or is ill it self, which is, when the Fountain of the Disease has its place there; or, (2.) It is caused by the consent of other Parts both internal and external, to wit, of an ill affected Stomach, of which there are several Causes instanced in the German *Ephemerides*, or of the Womb, Spleen, Intestines, Mesentery, Genitals, &c. Of the external, as of Ulcers, Wounds, Contusions, Inflammations, and Swellings. A *Virtuoso* observed how this Disease did thus arise from a hurt in the great Toe; so that a little spark kindled a great flame, and caused a true Earthquake in the Microcosm. Therefore the elastick Particles may well be blamed, which are perceived to ascend from these Parts, when they are pained; like a cold Air or Vapour, wherupon a man

man drops down in a sudden Convulsion.

A Sign of the Head's being primarily affected, is, when the Eyes are blinded and caliginous, the Head akes, with a heaviness and dulness of Sense and Mind, the Patients are troubled with turbulent Dreams, are taken suddenly, and, as if they had seen a *Gorgon's* Head, are struck dead in the twinkling of an eye. But when the Disease proceeds from the mouth of the Stomach, it may be known by this, that the Fit does invade them most, who have fasted a long time; and before the Disease seizes them, they find a Squeamishness, Gnawing, Decay of Appetite, Vomiting, Hicough, and the Heart-burn.

But if the Disease take its rise from other Parts, suppose from the Spleen or Womb, you will find the proper Signs of each Part as it is affected, and so it will be, if the Disease be lodged about the Bladder or Liver. Thus, if it come from the Womb, Pain will be felt about that place, also Palpitation of the Heart, Difficulty of Breathing, &c. will show it. There is a sort of Epilepsy also, that arises from a strange, exotick ferment, lurking in the Tube of some Part or other, and communicated to the Brain, as in Anger, Burning Fevers, Phrenzy, Small Pox: For when ever the least effervescence is raised in subjects, disposed to this Disease; then it may very easily so happen, that a Fit of it may arise from the transmission of a depraved ferment to the Brain, which puts all the Parts of the Head (if I may so say) into a panick fear, and gives the Alarm: for are there not manifest conveyances, namely the Nerves, by which the taint of the Poison

creeps into the Brain, and its rulers, the Animal Spirits? But if the Spleen be in fault, by reason of a vitiated ferment, or its own Corruption and Putrefaction, there are pains, heat and swellings in the left *Hypochondrium*; sometimes also the Scurvy, Cachexy, Melancholy, &c. are observed to accompany it; as, to my grief, I found it in a certain Illustrious Prince, whose untimely Death was much lamented. Nor must we forget Childrens Fits (concerning the Original and Cure whereof, I shall take another time to discourse) at the time of breeding their Teeth, which arises from a vellication of the third and seventh Conjugation of Nerves, and from Inflammation of the Gums. Like as, when they have Worms, they are also troubled with this same Disease, these being bred by their voracious eating of crude Meats, and bad Milk; which may easily be known, because when the Fit is over, they vomit Phlegm or curdled Milk; a thing to be lamented, that the poor Infants must bear the iniquity of their Mothers negligence, when she has omitted her duty. Nor can it be denied, if we go about to examine that case narrowly, That when Children die of Fits, it proceeds from a certain corruption of the Mother's Milk, whereby it is depraved and grows sowre in the Child's Stomach; which appears plain enough by the vomiting of curdled Milk, and the Excrements of the Belly grown porraceous and knotty by an acid, whence proceeds the contraction of the Nerves, and the elastick Particles are elevated to the origination of the Nerves, whence come these tragick convulsive Motions.

§. 3. *Part affected.*

SOME say the Part affected is the Brain with its whole Substance, and so they think that the Part chiefly affected is contained within the Brain. Others are absolutely of Opinion, That it is only the Ventricles of the Brain; some, that it is the passages thereof. Some Physicians will have it the middle of the Brain; and several the outer, cortical Part of it. There are some that take the Fibres and Tendons for the primary Subject; others, who shoot wide of the mark, fly to an occult and specifick quality, the refuge of Ignorance; others to a τὸ Δείον, or something Divine. Of which two last Opinions, he that will chuse one, makes only *Diomedes*'s and *Glaucus*'s exchange; and one may very well say of this Case, what *Plautus* says of Women: *You can never chuse a good one; one indeed is worse than another.* So *Quercetan* in *Tetrad.* blames the Heart without a fault. Some do hold, That the porous, lax and spongy *Medulla* of the Brain is the Part principally affected. Many hold, the *Glandula pinealis* and the *Plexus Choroides*. Some few conjecture that the *Medulla oblongata* is the subject of this Disease. The *Helmontians* blame the irradiation of the Soul, that proceeds from the Stomach, and affects the Brain.

But in my opinion they come nearest the truth, who take the Brain and Nerves for the primary Subject, which is proved, *First*, by *Galen*'s Authority, who l. 3. de loc. affect. l. 7. says, *It is consentaneous to Reason, that this Disease should be in the Brain*, if I may be allowed to produce his Authority among Phy-

sicians, and sure I may, since; *Secondly*, we have most pregnant Reasons to second it, namely, because in this Disease we find the principal Functions to be hurt: for the *Cerebellum* is principally affected, where the Spirits chiefly do their offices, and to which the Spinal Marrow is immediately joyned, then this, as the most sensible Part; being irritated, the whole Brain is shaken, together with the Nerves and the whole Body, and both the principal and inferior Functions cease, a preternatural motion only remaining. To confirm which Opinion, I have an instance of a Soldier, who, as I was writing this, was wounded by his Comrade; for he received a Cut in his Skull, which hurt the *Meninges*, and shook his Brain, and he was often taken with an Epilepsy and a Vomiting till he died. Nor do we exclude the *dura Meninx*, or any other *Meninges* of the Brain, which line the sides of the Ventricles; nay, nor the more remote Membranes, that are without the Skull, by whose consent the Brain may be affected. *Dr. Willis* in his *Pathologia cerebri*, a Book that might be a grace to *Apollo*'s Library, accuses the peccant and depraved motion of the Animal Spirits, as is apparent from what follows, when we shall discourse of the Cause. And whereas he acknowledges the Animal Spirits for the Subject, yet he may easily be reconciled to our Opinion; for the solid membranous Parts are the Tongues and Interpreters of the Humors and Spirits in our Brain, and it is evident to sense, that convulsive Motions are made by means of the solid Parts; wherefore I do not deny that the Animal Spirits offend in motion, as appears from his

his own very words, That an Epilepsy can never be, unless the Brain itself, or some Membrane of it, provoked by some irritation, perceive a spasmodic Corrugation and Crispation by means of the Membranes. There happened a strange Case to a Country-fellow in this Neighbourhood, who had his Skull so wounded and broken with a Huntsman's Knife, that some fragments of the *Cranium* were struck into the substance of the Brain, which the Surgeon successfully extracted by Trepanning, Eighteen days after the Wound was given, and (which is wonderful) though both the *Dura* and *Pia mater* were hurt, yet the Patient in a manner found no convulsive motions at all. I am here at a stand, what the reason should be, why an Epilepsy took not this man, which is an inseparable accident of such Persons? This, if my conjecture fail me not, was the reason, because these Membranes were cut at one blow; besides, the Animal Spirits were observed not to be very explosive in this subject; yet the Patient was not without a mist in his Eyes and a *Vertigo*, which are not wrong called, the Dawnings of this Disease.

§. 4. Signs.

Now we will search the Signs, whereby we may know this Lion, as by his footsteps. They that are troubled with this Disease, feel a cold Air creep up along the hind-part of the Head to the crown, as a fore-runner of it; the Belly and *Præcordia* swell with wind, often rumble, some have their Faces pale first, others red; a disordered motion of the Tongue, aking and hea-

vinefs of the Head, forgetfulness, sadness, and fickleness of Mind attend the Patients. Some have a darkness come over their bemisted Eyes, others on the contrary see Flashes, Sparks, Flies and Clouds. Then according to that of *Virgil*;

Fertur equis auriga, nec audit currus habenas.

The principal and leading Sign of a strong Epilepsy, is abundance of froth about the corners of ones mouth, just as if they were bedaubed with melted Wax, and lees of Oyl; I say of a strong one, for in a less degree of this Disease no froth appears, as being insufficient to strain out such an Excrement. Then when the Patient is deprived of his Senses, a sudden fall follows, with a violent concursion or quivering of the whole Body: sometimes before they fall, they run this way and the other, as, to my admiration, I observed in one that was Epileptick; then the poor Wretches Body is drawn awry, and agitated with divers motions; they thump and strike the wall and ground with their Head, Back, Arms and Legs; their Eyes also are turned in, sometimes their cheek is drawn to their Breast, sometimes to their Back; there is often also an involuntary effusion of Seed, now and then of the Ordure and Urine, that is, when these Muscles are convulse and loosened, being left of the Animal Spirits, and therefore not sufficiently intent upon their Functions, besides, they rattle in the Throat, and sometimes cry out aloud; but a weak and suppressed Voice does ofteneft concur, like People that are strangled, and the Patients are almost without Voice, because

because of the interception of the Animal Spirits ; they often loll out their Tongues like a thirsty Dog, and are in danger of biting it with their Teeth. Others have their Teeth so close set, that it is more of God's mercy, than humane help, that they are not choaked. The time when they come to themselves is dubious and various, they rise by their own strength, but as weary as Souldiers after a Battel ; a sobbing Breath and Head-ach are fore-runners of their coming out of the Fit.

§. 5. *Cause.*

THE manner of our Method tells us, we must inquire diligently into the Causes. The Divine *Hippocrates* and his disciple *Galen* will have the Cause of this Disease to be Phlegmatick and Melancholick Humors raising a disturbance in the Brain. Therefore according to their Judgments and *Hypothesis*, an Epilepsy is caused by abundance of a Melancholick and Phlegmatick Humor, nor do they exclude a bilious, because that sort of Humor has a Power in it to irritate the Brain, and consequently to produce an Epilepsy. And they believe, that from all these forementioned Humors, corrupt, poisonous and virulent Vapors do arise, which cause Obstructions in the Passages of the Brain, and by these means the passage of the Spirits is stopped, wherefore the Brain and Principle of the Nerves, that it may expel that which struggles with it, does contract it self, and forces out what is hurtful, be it a Vapor or Humor.

§. 6.

THE Chymists take another way, and among them the *Paracelsists* do in this Disease blame a volatil acid Spirit, as their Lord and Master does, and they are tooth and nail for this Opinion. Sometimes he calls this Disease an acid Spirit, wherefore, Dictator like, he ranks it in the Catalogue of Mercurial Diseases ; sometimes he thinks, that this Disease is astral, spiritual, invisible, from connate Principles, and especially from their tinctures and impressions exalted. The same Author in another place affirms, That the matter of an Epilepsy is a stupefactive biting Sulphur, residing in the Microcosm, which hurts the Brain like smoak, when an Ebullition is raised by the Stars.

§. 7.

OUR *Willis* dissents from both, and seems to approach nearer the shrine of Truth, through the thickets of jarring Opinions and Reasons on either hand ; that is, he makes the Cause of the Mischief to consist in heterogeneous and explosive Nitro-sulphureous Particles, which being kindled like Gun-Powder, are communicated to the Brain by the Animal Spirits, whence proceed these convulsive motions ; for the Animal Spirits do start out too impetuously and like a head-strong Horse, when spurred, break their Bridle, and draw and tear the containing Parts, like a Charriot behind them in a perverse and outrageous motion.

§. 8.

Helmont, who often Paracelsizes, ascribes the rise of this Disease to the Stomach, and thinks it arises from the lower Parts, by which *Archæus* of ours he reckons the Spirits are made waspish, whence proceeds the Epilepsy, in which often an insensitive, and (as he says) a mad Poison, that afflicts for a time, resides about the *Pæcordia*.

§. 9.

Tachenius, who has gained a good repute among Physicians, blames the Acid, and he makes the thing more probable and likely, because these convulsive Motions are best cured by volatil Alkalies: And he has this further to say, That Gripes and æruginous Excrements are often attended with an Epilepsy, especially in Children.

§. 10.

Sylvius, who treads in *Helmont's* footsteps, thinks that the true and adequate Cause of all Epilepsies is an acid volatil Spirit, in whatever Part it be bred and gathered, and carried thence to the Brain, which joyned with the Animal Spirits, severs and moves them impetuously, and further, from a kindly, continual, and orderly motion, subject to the empire of the Will, puts them into an impetuous and violent one. And he supports this Opinion, for that the Animal Spirits are of oily, sharp and watry Parts, which easily take fire, and being kindled all at once, may rush

upon the nervous System, and shake it.

§. 11.

Cartes, That subtil Silk-worm, who seems to have put out the Eyes of the old Philosophers, blames a depraved Blood, with a certain obstruction in the solid Parts, and therefore in the foursquare Particles, which, after what manner soever they are applied to the nervous kind, exert their power, and in the hooked Particles, which being once fastened to the nervous Fibres, cannot so easily be removed; thence these nervous Crispations and the Epilepsy have their rise, and thus he seeks the Cause only in the figure of the Particles. The Spirits (as he says) which pass through the *Glandula Pinealis* contribute most to voluntary motion, for because the *Glandula* has very many Arteries under it on every hand, since at every Pulse many Spirits are cast out and hit against the *Glandula*, and because it also has its Pores, therefore much of them pass through these Pores, which properly contribute to the voluntary determination of the Spirits, because since the *Glandula* receives some determination from the Soul, the Pores of the *Glandula* also require another aspect, wherefore the Spirits, which are moved through its Pores, are also moved to another Part of the Brain, and when the Spirits placed in *æquilibrio* (or in a Poise) in the Ventricles, are thrust out by these Spirits, they are determined to some Part. But in this Disease the voluntary determination of the Spirits is taken away, because such abundance of Spirits fly violently in on every hand,

hand, and pass through the Pores of the *Glandula*, that the Soul cannot at all hinder these Motions, but only plays the Spectator in the Tragedy, and stands amazed and stonied.

§. 12.

I, If I might be *Palæmon*, would either say,

Non nostrum inter vos tantas componere lites:

or (the first intimation of which Opinion I owe to *Willis*) I should guess that the Cause laid in a bad *Lympha* or sort of *Serum*, which by its nitro-sulphureous or bilious Particles, joyning themselves in company with the Animal Spirits, by corroding, irritating, and enraging the Spirits, makes them, whether they will or no, part asunder, & like fired Gun-Powder, *Aurum fulminans*, or *Pulvis tonitrualis*, or like a glass drop exerting its elastick Faculty, rush violently upon the Nerves, even to the Membranes and Brain it self; and hereupon the Animal Spirits, being made rebellious, become the Authors of so many horrible Symptoms, which tumultuary Motion of the Animal Spirits *Willis* has rightly called *Explosive*: For it is nothing else that produces an Epilepsy, but the violent and impetuous Explosion of some Particles, that reside in the Blood and Animal Spirits, whence proceeds that great provocation of the Membranes of the Brain, and that disturbance or violent commotion of the Animal Spirits. For these heterogeneous or elastick Particles being mixt with the Animal Spirits, are moved impetuously, whereby the

Animal Spirits being violently dilated, and moved disorderly, acquire such a determination, and so open the Pores of the Brain that they are discharged every way upon the Nerves. And that all these things may be done without sense or appetite, may easily be proved by Hydraulick and Pneumatick Engines, and thereby the Cause of this very bad Disease may be explained. For the Cause of an Epilepsy does not necessarily lie in the Head, but may arise somewhere else from a solid Part. Thus I have known it arise from a suppression of the *Menstrua*; wherefore it is probable that this Disease may be produced in the Womb or Testicles of a Woman, by corrupt Blood or Seed; for when the Blood is thicker than it should be, it causes Obstructions about the Womb, because when the Humors and Blood sticking there do stagnate, and a great part of them corrupted sticks in the Tubes of the Womb, they cannot circulate and return to the Heart by the Lymphatick Vessels; here, by their long tarrying, they take new Pores, are disturbed by their own internal Fermentation, or by some external Cause, as Anger, &c. and are forced out of their abodes through the Lymphatick Vessels to the Blood, they cause greater Fermentations than usual in the Blood, thence they are forced all over the Body with the greatest violence, and because the Blood is more agitated by this Fermentation, greater, or of it is carried to the Brain, whereupon a most violent Tempest and Commotion arises in it; so that beside the Spirits, some portion of the Blood, which best corresponds to the Pores, is discharged into the Tubes of the Brain, which, since

it is not very thick cannot cause a total Obstruction in the Nerves; but because it is also thicker than the Animal Spirits, when it lights into the Pores of some Nerves, it obstructs them, hence it follows, because the Nerves are left destitute of Spirits by this Obstruction, and therefore hang flaccid, that the Patient sinks suddenly to the ground, and perceives it not.

A too great Effervescence of the Blood may also be the Cause of this Disease; for by this Effervescence the Humors are made frothy, which froth obstructs the Nerves on every hand, and hence proceeds the falling to the ground, and the abolition of sense. And because the Blood is hurried to the head in excessive violence and quantity, and Spirits are bred, which being moved with great violence in the Brain, seek every way to get out; so that where there is no great Obstruction, here and there they get through into the Nerves, and so make their way to the Limbs; whereupon, according to the diversity of the Part, into which the Spirits rush, divers convulsive Motions and various accidents arise: For if they repair to the salival Glands, they cast out slaver with some violence; hence it is that in some abundance of froth comes out at the Mouth, inasmuch as the slaver is raised into bubbles by the Breath; but if the Spirits be carried to other Part, as to the Stones, Lungs, Bladder, Arms, &c. then other Symptoms follow. The acrimony of the Animal Spirits, as we said before, contributes much to this convulsive Motion, because by their vellication they very much open the Nerves. Bile of it self will scarce (as many think) produce

an Epilepsy, because it is an Humor subtil enough, and therefore in passing through all Parts, at the most it will cause no more by its sharpness than a pricking Pain all over the Body; but it can scarce produce an Epilepsy; because always in a manner there must be some Obstruction in an Epilepsy, and Bile does seldom or never cause an Obstruction, that is, if it be pure, and not mixt with other Humors.

§. 13. *Prognostick.*

NOW, according to our manner of proceeding, let us briefly lay down what hope there may be of the Patient. Every Epilepsy indeed is full of Danger, and very difficult to Cure, because the Pores are made very lax by every Fit; so that at length they lie very open to the incursions of any heterogeneous Matter, as if a Path were made, and the Doors broke open. Yet one is more dangerous than another, and more difficult to Cure, especially if the Fits be frequent, for the reason aforesaid; sometimes this Disease afflicts a man so grievously, that the best Medicines will scarce save his life, tho no stone be left unturned to do it. Wherefore it may easily be inferred, that an Idiopathick one is more hazardous and difficult to cure than a Sympathetick; also the longer the Fit lasts, the worse the Disease must be reckoned to be, the Pores being violently dilated, and as it were hollowed by the frequent incursions of this Enemy. This cruel Disease uses often to afflict Children, because they have a moist Brain, and therefore wider Pores. The Disease also is usually long,

long, which unless it leave Boyes at the time of Pubescence, the solidity of the Pores of the Brain being daily increased, and Girls at the coming of their *Menstrua*, which usually carry off the peccant *Lympha*, the poor Wretches turn this Sisyphæan Stone, till the day of their Death; for since great alterations are made at the time of Pubescence, if it is not cured about that time, it will hold them, as long as they live. This Disease is apt to return, because the Pores in the Brain are so made, that they will easily again transmit the peccant Humor. An inveterate Epilepsy is incurable; for when the Disease is of some years date, it is no more to be cured. And it is not so much the saying of *Seneca*, as of an Oracle, (which is applicable to this case) *The Physician has less to do, when he is called to the beginning of a Disease*: for in this state of affairs the Brain is corroded, and then the interstices of the Pores are insensibly pierced thorough. Also an hereditary Epilepsy, by reason of a disposition of the Pores in the Brain, vitiated by Nature, will give way to no Medicines, and is incurable, as also is a connate one. When it comes in Young men after Five and twenty, it lasts as long as they live, as *Hippocrates Sect. 5. Aph. 7.* shows, in these words, *They that have the falling Sickness before Pubescence, have a transmutation, for they that have it after Five and twenty they go to their Graves with it.* And as this Disease invades most in the Spring time, so at that time it is more dangerous and grievous. Again, when the whole Body is affected, and it comes suddenly, so that the Patient can apprehend no sense of the Mis-

chief in any Part of his Body, before it takes his Head, it is scarce curable. Also, if the Disease be very acute, have frequent Fits, and great Symptoms, it will quickly make an end of the Patient. It is not so bad, if the Disease be contracted from an ill Diet, and if it yield to slight Remedies; to this class belongs the Epilepsy of Maids and young Widows, which may easily be cured by Marriage. There is no harm, if a long Fever take an Epileptick Person, especially a Quartane; for it is a Sign, that the elastick and inflammable Particles are taken away by this change. Nor need it be much feared, when it happens at the coming out of the Small Pox or Measles; for when once the Effervescence of the Blood, stimulated by the *Lympha*, and so enraging the Animal Spirits, is abated, the Disease abates of it self. Oftentimes an Epilepsy is cured by loss of Seed, the peccant Matter being discharged by those passages; sometimes by sneezing, sometimes by Excretion of the Phlegmatick Humor, by the Nose, by Stool, Urine or Vomit. Sometimes it is cured by blindness and squinting, as the Curious have observed, because the *Lympha*, which is the Cause of the Calamity, coagulates, and gathers to the optick Nerves. This Disease oft ends in a Sweat, sometimes in an Itch. Some have observed this Disease to come upon unseasonable anointing with Mercury for the Itch, and the reason is, because this mad anointing violently drives abundance of the peccant Matter, that is in the Serum, to the upper Parts, and so to the Brain, as to a common shore: *Trincavella* confirms this by a twofold instance, of the Father and the Son.

Son. This Calamity also ends in a shrinking of the Hands and Feet, and also in loss of Speech.

The famous *Willis de Morb. Convulsiv. cap. 3.* observed an Epilepsy turn by a sad *Metamorphosis* into an incurable Stupidity and Melancholy. Practitioners write, how it has turned to the Palsy, and to other Diseases, whom you may consult. We must go about other work.

§. 14. Dietetic Cure.

THE Method for removing an Epilepsy is, by these sorts of Remedies. The manner of living must be such. The *Air* must be moderately hot, pure and dry, you must utterly avoid an impure, contagious, cloudy, and too cold an Air, as we have experienced in a certain Prince, who being otherwise subject to this Disease, did notwithstanding commit himself to an extreme Cold, upon which he was immediately seized with this Disease on his Journey, with such violence, that he forthwith died of it.

The *Meat* must be moderately hot, easie of Concoction, and of good Juice, Birds of the Mountain, Hens, Thrushes, and Hares are good; and that of *Martial* has place here,

Inter aves turdus, si quis me judice certet,

Inter quadrupedes, gloria prima lepus.

Pidgeons, Lamb, Partridge and Capons are good, all which Food must be seasoned with Spice. The use of Capers is good.

Fish must be avoided, for according to the French Proverb, *Poi-*

sons fait poisson, i. e. Fish breeds Poison. All Pulse is put in the same Predicament, and also Garlick and Beans, of which the Greeks used to say, *ἴνα μὴ φάγῃ σκόραδα, μὴδὲ κνέμους.* Shun sharp Mustard, Onions, (food for Smiths) Pork, Nuts. Some sorts of Meat also are reckoned to have a peculiar Faculty in breeding an Epilepsy, such as Kid, Goats Liver, Quails, Goose, Duck, Eels, Mushromes; and this very day, while I am writing this, I observed a Child taken away in a Fit of an Epilepsy, upon his eating stewed Cabbage. The same Calamity uses to befall Infants, when upon gussling too much Milk, and its turning sowre and corrupting on the Stomach, Gripes, Convulsion and Death do certainly follow. So also all sugared and sweet things, contrary to the Opinion of the vulgar, are often the only Breeders of the Epilepsy, by reason of a hidden Acid. Therefore, by the way, Physicians do ill, who advise Sugar to gratifie Childrens Palates.

The *Drink* must be a watry, small Wine, not old, nor Impregnated with Sulphur; but in this Disease especially men must abstain from Drunkenness. For at *Limburgh*, where I first began to practise Physick some years ago, a Woman, who had a double Tertian, drank off a Quart of strong Wine, to satisfy her extreme thirst, without the By-standers knowledge, upon which the poor Woman was taken with a Fit of the Falling Sickness; yet I perfectly recovered her by Medicines, which I shall hereafter mention.

Exercise of the Body will do good, if it be not presently after Meat, nor in a bilious cacochymick Body,

Body, left by these means the mass of Blood be troubled, and the morbid Ferments, that lie under the Ashes, break forth to the Head, whereupon the elastick Particles are excited, from which Convulsive or Epileptick Motions use to arise. Frictions of the Head must be seldom used, and the use of *Venus* must be moderate.

Sleep and Watching must be moderate. The Patient must take heed of Sleep, the Brother of Death, especially on the Day time, and immoderate in the Night. And he must not be so bold, as to sleep in the Moon-shine.

The *Excrements* of the Belly must be discharged every day either by Nature, or Art. Retention of the Seed, *Menses*, *Hæmorrhoids*, &c. is bad; because Taints easily arise from thence.

Perturbations of *Mind*; for instance, Anger, Terror, Fear, Sadness, Care, have a great Power to cause an Epilepsy. Which is confirmed by *Helmont's* Observation, *Lib. de Morb. Arch. §. 18.* that an Epilepsy laid quiet for some Months and Years, and never rose, unless through Anger, Sadness, *Venus*, Child-bearing, &c. can you not without conjuring, tell that these, and such things as these, may well raise taints? Therefore all violent Passions of the Mind, unless one be willing to provoke an Enemy, must be avoided; for these Passions, like Stars, are very apt to alter the microcosmick Body.

§. 15.

Which things premised, now we will make our approaches nearer, and break in upon the Enemy by main force of Medicine:

And it appears, that the Ancients used one sort of Engines and the Moderns another. This was the Ancient's course, they cured the Disease with the following Medicines. If preternatural viscid, glutinous and tough Humors, or salt and sharp ones abounded, they used Preparatives, *i. e.* *Oxymel* of Squills, Syrup of Apples, Decoctions of Betony, Hyssop, Marjoram, Bawm, Root and Seed of Peony, Seed of Fennil, Anise, Water of Betony, Peony, Hyssop, Primrose, Sage, Bugloss.

Their Evacuators and Lenitives were these following, *Pilula eloëtica*, *Aurea*, *sine quibus essenolo*, *Marocostina*, *Aloëphangina*, *Cochia*, *Fœtida*, Stewed Prunes, Cream of Tartar, &c. Those were their Evacuators, these their Averters, Clysters of Roots of Peony, Birthwort, *Asarum*, Mallow, Leaves of Rue, lesser Centaury, Betony, Mercury, Flowers of Chamomil, Penniroyal, Poley Mountain, Senna of *Alexandria*, to these Decoctions they add lenitive Electuary, *hiera Logadii*, half an Ounce, Oyl of Rue, &c.

In this Catalogue they rank Suppositories and Apophlegmatisms of Seeds of Peony, and Root of Peltory of *Spain*, Masticatories of Staves-acre, Raisins, Mastich, Nutmeg, Castor, &c. and *nasalia* of Juice of Peony Root, Rue and Betony.

And Gargarisms of Wine and Vinegar, in which Flowers of French Lavender, Leaves of wild Marjoram, Hyssop, Betony, &c. may be boyled,

Also Sternutatories of Pepper, Hellebore, Castor, Peony-Root, Marjoram, Flowers of Lily convall, &c. They are likewise for applying of Cupping-glasses to the Shoulder

Shoulder Blades and the *Hypochondria*, and to the Hams or Ankles ; if the Disease come by consent, to the hind Part of the Head, but especially to the extreme Parts : also Plasters of Mithridate or Treacle.

They thought that Ligatures did much good, when the Patient feels a hurtful Air creep up to his Head, by stopping its passage, that so the imminent Fit may either be quite prevented, or if that cannot be, that it may at least be milder. But this sort of Remedy does more good in a remiss degree of this Disease, than in a strong one.

They ordered rubbing of the whole Body from the upper Parts downwards. They opened the *Hæmorrhoids* with Leeches ; they also set them to the Forehead or some other convenient places, whereby the peccant matter was exhausted.

They applied Rubificants to the Neck and other Parts, to hinder the poisonous Vapor from getting up: And they made such sort of Medicines of Mustard, *Cantharides*, *Euphorbium*, strong Vinegar and Leven.

They were so bold, as to apply Cauteries to the hind Part of the Head, which were otherwise dangerous.

Medicines to strengthen, and to waste the remaining Matter, and to amend the intemperature of the Brain, are Treacle, Mithridate, Conserve of Rosemary, *Acorus*, Sage, Water of Linden Flowers, Powder of Ivory, Hartshorn, Mistletoe of the Oak, &c. which must not be used only twice, or thrice, or four times, but very often. Among these we may reckon Man's Bones burnt, Asses Hoof, *Assa fœtida*, Elecampane, Root and Seed of

Peony, Humane Skull, of a Man for a Man, and of a Woman for a Woman, by the daily use of which this Disease was thought to be cured in some People ; the Bladder of a Boar with the Urine, taken out while it is hot, and dried in an Oven, till it may be reduced to Powder, was counted an excellent Medicine by the Ancients, Decoctions of *Sarsaparilla*, *Guajacum*, &c. are not to be neglected.

Among Externals they used *Oleum Philosophorum*, Oyntment made of Oyl of Rue, *Euphorbium*, and Oyl of Fox. They also highly commended Bathing.

§. 16.

Hitherto we have given a slight Delineation of the old Method of Cure. Now follows the Chymical Method. And whereas the *Paracelsists* say, That this Disease is Astral, Occult, Malignant, Lunar, Mercurial, and Vitriolate, they subjoin a Cure according to these their Principles. For since the Disease is Astral, the Influence of the Stars must not be neglected ; but it intimates to us, that we should observe them, both in the Digging, Preparation, and Administration of Remedies. And therefore under a certain Aspect of the Stars they make and give the green or blew Liquor of *Luna*. For they call the Moon the external Brain, and likewise they call the internal Brain the Moon.

Paracelsus also refers hitherto Emeraulds, Jacynths, Granates, Jaspers, Rubies, and their true tinctures, Coral and Pearl.

He also commends his *Aquila Celestis*, and his *dulcedo* or *manna Mercurii*, because it preserves the *Micrococ-*

crocosmick Mercury in its natural liquability. So likewise Spirit of Vitriol, the volatility and sweetness of sweet Wine, are reckoned the true Alexipharmacks of this Disease. Hither also belong Tartar, Sulphur, Antimoniates, Camphore, Oyl of Soot, Water of Linden Flowers or of Lily convall do greatly subdue the Falling Sicknes.

To say nothing now of *Paracelsus* his Essence of Man's Brain and Skull, made with the rectified Spirit of Wine and Sage, which because of its consistency he calls *Galreda*; or a Magistery made with Spirit of Vitriol. Also Essence of Man's Blood, and Mummy are reckoned of great Virtue.

§. 17.

Helmont affirms upon his own Experience, that the injury of the Disease has been often removed by the volatil Salt of the Microcosm. And he ascribes the same success to the use of Cephalick Vegetables and other Specificks. He says also that an Elk's hoof rubbed on the Head, and hung about the Neck keeps it away; yet it loses its virtue by using, so that it cannot be applied afterwards with any success.

§. 18.

Now we will see what *Willis* his Cure is, and we shall find, that he differs from the common Method of Cure: for he will scarce admit of general Evacuation, that is, of strong Purges and Bleeding, nor of Sneezers, high Cordials, Cupping nor Scarifying, because of their notorious kindling and explosion of the Animal Spirits, and irri-

tation of the Nerves and Fibres. On the contrary, he commends all things that fix the enraged and volatil Animal Spirits, and that suppress their explosive Motions, when begun; which effect he promises to himself from Medicines endued with a volatil and ammoniack Salt, or with a vitriolick Sulphur, such as are Salt, and Oyl of Amber, Spirit of Man's Blood, or of any other Animal, Spirit of Hartshorn, Soot, tincture of Castor, a few drops either taken inwardly in a proper Vehicle, or held to the Nose: for he says, these things as surely give relief, as the Gospel is true. He also makes use of Frictions all over the Body, by means whereof the Animal Spirits are gently diverted from going into Explosions, and are hindered as it were by fitters.

He thinks also that Secrets and Arcana, which they call Specificks, should not be omitted in this case, and for a very good reason, because it is the Nature of them by strengthening the Brain, and contracting its Pores, to hinder the concurrence of the thronging Spirits, and so they fix the Spirits that are in the mid'st of the Brain. For all Antiepilepticks, as Peony, Mistletoe, Linden Flowers, Lily Convall, &c. have an astringent Faculty, whereby they straiten and close up the over-lax and open Pores of the Brain, and so stop the passage of the morbid Matter that causes the disturbance.

The Medicines that he takes from Minerals and Animals are Man's Skull, any Blood, Amber, Coral, and volatil Salts.

And whether it be a Child or a grown Person, that is taken, if he suspect store of acid Phlegm in the Stomach,

Stomach, he gives a Vomit for several Months, four days before the Full Moon, namely, Wine of Squills, mixt with Oyl of Sweet Almonds, or *Sal vitrioli album*, or *tartarum emeticum*. Then in an excessive fullness of Blood he orders a little Blood to be taken from the Arm, and, when there is absolute Necessity, he gives this or some such like Purge.

Take of Refine of Jalap half a Scruple, *Mercurius dulcis* fifteen Grains, Castor three Grains, Conserve of Peony Flowers one Drachm. Make a *Bolus*; or give them in form of Pills.

These are the stout tried Medicines: the following, which they call Empirical, are like fresh-water Soldiers, who sometimes show no great Valor in the Victory, but overtake the Enemy in a panick fear when others have routed him, that is, the Livers of Frogs, Bryony Root, Powder of a Cuckow, Hare's Rennet, and Lungs, a Wolf's Liver, Stones taken out of Swallows, Kite's Liver, Crow's Eggs, &c.

Take these upon the Author's credit, namely, Amulets of Peony Root, Elk's Hoof, Man's Skull, Mistletoe of the Oak, Peony Seeds hung about one; but their vertue is more operative in the Stomach, than hung about the Neck. He thinks an Amulet of an Elder branch found growing on a Willow is of great virtue, and he glories, that he has often cured with that Remedy.

Externally also he uses Oyl of Amber, to anoint the Nostrils, &c. which you may see in himself. But I cannot omit that the aforesaid *Willis* has put into the class of pre-

sent Remedies Diaphoreticks, Salivators, Baths and Spaws, to which he advises his Patients to fly, as to their last refuge.

§. 19.

Splivius his Opinion is, That such things are very good, as fix the acid volatil Spirit, which disperses and disturbs the Animal Spirits, that is, lixivial Salts, either fixt or volatil, but then they must be fixing: for, he thinks, that Medicines consisting of a fixing and volatil Salt are good in an Epilepsy; therefore he prescribes Rue, Poley Mountain, Roots and Seeds of Peony, Valerian, Toothwort, Flowers of Lily convall, Linden Tree, and all things that abound with a volatil Salt, Squill, which manifests its volatil Salt by its Acrimony, Mistletoe of the Oak, Hazle wood, Box, Spirit of Tartar, Spirit and volatil Salt of Man's Skull, Hartshorn. Among fixing Salts he reckons Elk's Hoof, Hare's Rennet, Peacock's Dung, a Boar's Bladder and Urine dried in the Oven. He takes particular notice of Castor, which consists of a volatil Salt, as an excellent Antepileptick, also of Coral, Amber, Precious Stones, Native Cinnabar, which *Crato* calls the Load-Stone; all which things have an admirable Faculty of fixing the acid Spirit.

He denies, that Bleeding, Vomiting, Purging, Diureticks and Sudorificks are good of themselves; but he highly commends upon Experience Frictions, Issues and Salivation. Among Externals he orders spirituous and sharp things, that is things endued with a lixivious volatil Salt, and that fix the acid Spirit, to be held to the

Note

Nose ; such as Spirit of Sal Ammoniack, Soot, &c.

§. 20.

THe Cartesians think they have done the work, if they can but smooth the acute and angular Particles ; and this they endeavour to do by *Pulvis Marchionis de Gemmis*, Decoctions of Woods, and other Specifick Cephalicks, which we mentioned before. Also *Trochiscata Cœlestis* is good for the same purpose, which is made at *Hanover*, and is an experienced Medicine ; a few Grains of it may be given.

§. 21.

Hitherto we have seen other Men's Opinions about curing this Disease, now we will try what we our selves can do. It is evident from the Premisses, that above all things the sharp serum must be corrected, since in it lies the source of all the Mischief, and from it arises the Explosion of the Animal Spirits, and their disorderly and perverse violence upon the Nerves ; for whereas according to Nature they ought to flow in with a gentle and slow pace, they rush violently upon a Machin made up of small nervous Fibres, and cause a Contraction and Concussion. We ought therefore to drive out this Enemy by whatever Remedies we can find against its coming, or when it is come, by observing a due Method of Cure ; which is performed ordinarily by three Indications, 1. Curatory, 2. Preservatory, and 3. Vital. 1. The Curatory respects the Disease it self, and the Fit, and it either quite hinders it from coming, or at least alleviates it.

2. The Preservatory respects the very seminal tinctures of the Disease, and the evacuating and altering the morbid Causes and Impurities, or the morbid Ferments, by utterly extirpating the Disease with Universals and Particulars, and by preventing return of the Fit.

3. The Vital gives truce to the fortified Enemy, and does not expel it, till strength be recovered, and tries all means to recover the Patient's strength. The matter of the Remedies is taken from the threefold Fountain of Chirurgery, Pharmacy, and Diet.

When this sad eclipse of the Animal Faculty is coming, or come, the whole intention must be directed to the Cause and the Symptom. There is a twofold Symptom in this Disease, namely, a Cessation of the Animal Faculties, principal and sensitive, and a violent contraction. Therefore the Patient must be raised out of the Fit by loud shouting, pulling of his Limbs and Privities, and by rubbing the Neck and Back especially, with apoplectick Spirits or coarse Cloaths, or by any proper means that opportunity may afford. Ligatures are good, and Clysters made with volatile Salts. Let the Mouth be wrenched open either by the Hand or by an Instrument, both that the Patient may breath more easily, and that the froth may run out of it, and also that he may not bite his Tongue. And the Mouth may be kept open either with Mistletoe, or Peony Root, or Elk's Hoof, or a little Bag filled with Masticatory and Epileptick Medicines. It is customary also to unbend the Thumb and Fingers for to break the violence of the Disease, and to put an Elk's Hoof into the hand.

The

The Head and Breast should be kept upright, that they beat not against the ground. Some advise the anointing of the contracted Parts with warm Oyl; but I should rather use spirituous Aromatics, especially Spirit of Scurvy-grass, by which I can affirm, I have often given chace to the Enemy. Bruise a little Rue also between your Fingers, and put it into the Nostrils, so you may apply Poley Mountain; and other volatil Salts may be applied to the Nose, which will serve to shorten the Fit. As for the noble virtues of Rue, *Sylvius* tells us that both the Garden and wild Rue abound with a sharp, biting, volatil Salt, which is a proper corrector of an acid Spirit.

You may pour in Epileptick Waters, that is, *Hirundinum cum castoreo, picarum*, of Lily convall, tincture of Castor, volatil Spirit of Sal Ammoniack, Soot, Urine, Hartshorn, *Convulsivus Waldschmidii, balsamus nervinus Scheferi*.

The Patient may be raised by *Wedelius* his *Euporiston*, that is white Vitriol in Water of Lily Convall or Marjoram, with a little Castor and Amber, or by sneezing Powder, which every one knows. Cephalick Balsams may be applied to the Nose, namely Balsam of Marjoram, Amber, Rue; among these we may reckon Spirit of Sal Ammoniack and an urinous one; for instance,

Take of Spirit of Sal Ammoniack, Hartshorn each half a Drachm.
Mix them. Or.

Take of Oyl of Castor two Drops.
Balsamus vite, of Rue, Oyl of Amber each what is sufficient.
Mix them.

But if the Disease come by con-

sent of the Stomach, and if squeamishness, and other signs of an afflicted Stomach have gone before, a Vomit may be given either the old way, of *Electuarium Diasari*, &c. or, which is better, the new way, of *Tartarum emericum* from two Grains to four, mixt with some proper Liquor; for when the viscid acid residing in the Stomach is evacuated, the Disease is gone immediately, which I have experienced in Children with good Success, when the Milk has upon some account or other been turned into an eruginous or green colour. These things must be done; but in the Fit one thing must be omitted, that is, Bleeding, otherwise the enraged Soul would fly out at the passage, unless one would draw a little and give the Patient a drop or two of his own Blood in some proper Water; yet if there were a *Plethora*, I should not scruple to bleed in the Forehead or under the Tongue. If the Fit last long, or come at short intervals, sharp, stimulating and strong Clysters may be given at the time of remission. If this Disease come in Women from consent with the Womb, burn stinking things, that is Feathers of Peacocks, and Partridge, Leather, and other trash, in inventing of which, it would make a Philosopher smile to hear, what the Madness of good Women and old Women does contrive. That which is something to the purpose, is, *Assa fetida* and Castor tied up in a Rag, and held to the Nose; and volatil Spirit of Sal Ammoniack is altogether as effectual. When the Fit comes from the Obstruction of the *Menses* or Child-bed Purgations, we give a Clyster of hysterical things, and bleed in the Foot, and then for

for precipitating and throwing off the Epileptick ferment, we advise a Physick Wine made of Anti-epilepticks, Purgatives, and Hystericks, to be used out of the Fit. In the Fit we use stinking things, which quiet the enraged Animal Spirits. If sweet scented things be used either inwardly or outwardly, the Fit is not only encreased, but hastened. In this case these Specificks are proper, Amber, Mother of Pearl, and all things that contain much *Alkali* in them, which are good to soak up that exotick acid; it is also proper to give *Elixir Proprietatis*, with Essence of Castor and Myrrh about the Quarters of the Moon, because at that time the strange Particles in the Blood and Serum are apt to ferment. And now we have done with the Curatory Indication, we will proceed to the Preservatory, where we must take especial notice, that if the Cause of the Disease lie in any one certain Part, beside other things, Cuppings, Ligatures, Cauteries, both actual and potential, Setons, Issues, Blisters and Leeches are proper. Some commend Cauteries, others condemn them? I dare conclude nothing, because I have not experienced them; only by burning the Crown of the Head with Indian *Moxa*, I happily cured one of Sixteen years of Age. I cannot tell what to say of the Custom in *Lybia*, where the People burn the Crowns of their Childrens Heads with sappy Wood, when they are four years old to preserve them from the Epilepsy. The same thing is at this very day in use at *Florence*, and they defend their Practice by this reason, because of two Evils, in all Wise mens Opinions, the less is to be chosen; so that it is better to

try any means, than to leave a poor Creature to such a torture; and here the Aphorism holds good, *What Medicines cannot cure, Fire Cures.*

Instead of an actual Cautey, a potential one made of *Cantharides*, Leven and Vinegar may be applied to the coronal Suture; for it is most certain, that when a passage is thus made, the elastick Particles get out. In Children Blisters may be raised in their Necks, and pricked with a Needle, and suffered to run a Month or longer.

Some also use the Trepan for the same purpose, without any hazard, concerning which see *Severinus*. Arteriotomy has likewise often been performed with good success.

We have seen the Chirurgick Remedies, now we will proceed to the Pharmaceutick. And in the first rank we meet with volatil Alkalies, also earthy things, which soak up the vicious acid. Next comes a twofold Sulphur of Antimony, good to stop Epileptick Fits, made either without or mixt and sublimed with Mercury; but that is best which is precipitated a certain way from the *Scoria* the last time. The Dose may be, if there be occasion, one Grain, and for strong Constitutions, two; it prevents as well as stops Fits, and carries off the Cause of the Disease by Vomit, if it be found in the first ways; you may give it to little Children, and repeat it without danger. It must always be given with *Mercurius dulcis* before the new Moon for prevention; and several times repeated out of the Fit it is good to extirpate the malignant Ferment. And by a gentle Breathing it quiets this Disease, as the Learned *Etmuller* experi-

ced in his *Valetudinarium infantile*.

Among these we reckon earthy things, such as the Skull of a Man, who died a violent Death, red Coral, Bezoar, oriental and occidental, Sea Unicorn, and the Fossil: for all these things soak up the acid that trouble the Nerves, and so make the Disease either more tolerable, or else sometimes quite remove it. In this class we rank Minerals, and in the first place native Hungarian Cinnabar, shining like Crystal, and Antimoniates, (as good as that) the use of which I would earnestly recommend to all young Practitioners. Here is a Prescription;

Take of choice native Cinnabar two Scruples, *Pulvis bezoarticus Sennerzi* one Scruple, *Bezoarticum solare*, *Magisterium cornu Aleis* each half a Scruple. Mix them. Make a Powder for several times taking. Or,

Take of native Cinnabar half a Drachm, or Cinnabar of Antimony one Scruple, volatil Salt of Hartshorn, of Man's Blood each half a Scruple, *Laudanum opiatum* one Grain. Mix them for several times taking.

Or the Epileptick, Cephalick Powder following, which is attributed to the Emperor *Rudolphus*.

Take of Cinnabar of Antimony half an Ounce, Unicorn two Ounces, Hartshorn, Mistlece of the Oak each one Drachm, *terra sigillata*, Man's Skull prepared; Pearl prepared, each fifteen Grains, Emerald, Cinnamon, Saffron, each half a Scruple. Mix them, and make a fine Powder.

The virtue of this Powder against this Disease is praise worthy, as is plain from its basis, Cinnabar of Antimony, which *Crato* commends for strengthening the Nerves, and composing the Animal Spirits. And almost all the Cephalick and Epileptick Powders of the most famous Physicians consist of this basis.

Take of *Specificum cephalicum Hartm. Quercet. Michael. or Waldschmid.* one Drachm, Magistery of Man's Skull, *fecula* of Peony each one Drachm, *Theriaca celestis Hanovienfis* five Grains, *Aleofaccharum succini* six Grains. Mix them. Make a Powder for use.

This following is *Michael's* famous Cephalick;

Take of native Armenian Cinnabar rectified by six Sublimations or more, or of Cinnabar of Antimony, as often rectified three Ounces, *fecula* of Peony Root one Ounce and an half, *Magisterium Epilepticum* half an Ounce, *Cordiale* two Ounces, one leaf of Gold. Mix them. Make a specificck Cephalick.

The *Magisterium Epilepticum*;

Take of Elk's hoof, Man's Skull who died of a violent Death, Elk's horn, Hartshorn each one Ounce, true oriental Emerald half an Ounce, true Unicorn two Drachms. Powder them, and pour to them a *Menstruum* prepared of Salt and Alum, what is sufficient, dissolve them, and precipitate the Solution with Spirit of Vitriol, sweeten the Precipitate, and add of Magistery of Amber one Drachm.

The

The *Magisterium Cordiale* ;

Take of Oriental Pearl prepared half an Ounce, red Coral, Stone of Perch each one Ounce, Shavings of Ivory, Hartshorn each six Drachms. When they are Powdered dissolve them in the foresaid *Menstruum*, and precipitate them with Spirit of Vitriol, than sweeten them. Of these two *Specificum Cephalicum* is made.

Theriaca celestis Hanovienfis is highly commended and approved by Experience. So is *Pulvis epilepticus infantilis Ludovicianus* with Opium, as also *Panacea Vitrioli*. I must also commend that Anti-epileptick *Arcanum*, which *Bartholinus* mentions in the *acta Hafnienfis* Vol. 5. Pag. 73. and which I have experienced several times.

Take of Man's Skull, Peony seeds each ten Grains, white Amber seven Grains, Gold prepared two Grains, Pearl prepared, Coral each five Grains, Bark of Elder growing on a Willow ten Grains, Castor three Grains, Powder of Marygolds nine Grains. Mix them, make a fine Powder to be given in Lavender water. Or,

Take of volatil Salt of Amber, Man's Skull each one Scruple, Castor two Drachms, infuse them in a sufficient quantity of Spirit of Wine, let them digest and circulate. Make an epileptick Tincture. The Dose is twenty Drops. Or,

Take of Spirit of Sal Ammoniack, made with Quick-lime and Spirit of Wine half an Ounce, pour it upon Castor, and draw a Tincture, as before. Or in form of a Powder.

Take of Man's Skull prepared one Drachm, Cinnabar of Antimony half a Drachm, Castor fifteen Grains, volatil Salt of Hartshorn, Amber each half a Scruple. Make a Powder for several Doses, as there shall be occasion.

So also Opiates may be joyned with these things, because they meekly pacifie the fierce and disordered Animal Spirits, and keep them within their Station, which would undoubtedly, to use *Helmont's* word, make our *Archais* mad. When it is accompanied with the Gripes, and Loosness with a hooping Cough, especially in Children, as it uses to do, the said Opiates are very convenient. In the Cure of an Hypochondriack Epilepsy, the Body must first be purged with the following Purge.

Take of *Mercurius dulcis* twelve Grains, Resin of Jalap six Grains, Man's Skull Philosophically prepared one Scruple, Tincture of Amber, Castor each five Grains, Conserve of Peony Flowers two Drachms. Mix them, make a Bolus. Or,

Take of Resin of Turbith, Agarick each six Grains, *Flores salis Ammoniacki Martialis* five Grains, volatil Salt of Amber two Grains, destilled Oyl of Majoram, two Drops. Mix them, make Pills.

Then the redounding Acid must be reduced to its natural state by *Vitriolum Martis*, our absorbing Salt, and *Zwelfer's* essential Salt mixt with Sugar-Candy; after Dinner and Supper also they must take some Powder of Carminative Seeds, with a little of Man's Skull scraped. But this we must take notice of,

That if the Disease arise from any other Part & Cause, Anti-epileptick Specificks are not always proper, but things appropriate to the Part affected. Nor must we here forget Absorbents.

In a Scorbutick Epilepsy Spirit of Sal Ammoniack mixt with our Antiscorbutick Elixir exceeds all; and the following Powder is good.

Take of the Back-bone of a Viper prepared twenty five Grains, Ashes of a Mole calcined white half a Drachm, Man's Skull, Bezoar stone each twenty four Grains, Sugar of Pearl two Drachms. Mix them. Make a Powder. The Dose is as much as one can take up on the Point of a Knife in the following Vehicle.

Take of Water drawn off Brooklime Juice. herb Mercury three Ounces. Mix them. Or,

Take of *Diascordium*, half an Ounce, Conserve of Groundpine two Ounces, Flowers of Linden-tree, Meadow Rue each one Handful, Shavings of Elk's Horn half an Ounce, Decoction of *Sarsa Parilla*, Juice of Brooklime each two Pounds, *Pulvis Spasmodicus* six Drachms. Destil them in glass Instruments, and add of the Tincture of Peony-root Bark two Drachms.

The Dose of this Water is a Spoonful at a time, whose virtue is to discuss the sharp Serum either by Sweat or Urine. Or;

Take of my Antiscorbutick Elixir two Drachms, my Epileptick Elixir one Drachm and an half, Mix them. Put it in a glass.

Give twenty Drops in some proper Water. In Hysterick convulsive Motions, whatever Medicines are given, they must have Castor in them.

I will impart a Powder, which I have had Experience of a thousand times, to the great comfort of Epileptick Persons. I call it the *fixing Dragon*.

Take of Nutmeg one Drachm and an half, Ashes of a Mole two Drachms, the Heel Bones of a Hare No. 3. Powder of *Carduus Benedictus* four scruples, Elks-hoof, white Amber, Mistleoe of the Oak each two Scruples, and an half, prepared Pearl one Drachm, burnt Harts-horn half a Drachm, true Unicorn one Scruple, Man's skull three Drachms, Peony seeds one Drachm and an half, Sugar-candy two ounces and two Drachms, Leaf Gold what you please. Mix them. Make a Powder. The Dose from half a Drachm to four or five Scruples.

Man's Blood rightly taken, fermented with as much rectified Spirit of Wine, yields a Spirit of a most grateful smell, which pierces and pricks the Tongue, and is an excellent Antispasmodick. The Dose is from fifteen to twenty drops in some proper Vehicle.

And now we must recount other things in general, which bring the Animal Spirits into order, comfort the Nerves, and often either mitigate or quite remove the convulsive Motion.

Take of Willis his cephalick Elixir Spirit of Sal Ammoniack, Epileptick Spirit of Vitriol each half a Drachm. Mix them. The Dose twenty Drops. Tin-

Tincture of Coral, made with a little of our sweet calcined Nitre, and Spirit of Aniseeds, or only with the Oyl (which is better) will do good, because when it is made the latter way, it wants an acid *Menstruum*. Some make a great stir with the tincture of *Luna*, but I am not of their mind; for since it has nothing in it but Vitriol, as appears by the blew colour, one may easily guess, it can be of no great virtue in this Disease. The *Primum ens* or Sap of the Linden-tree, drawn out of the Tree in *February*, if three Ounces of it be taken thrice a day, does wonders. I reveal this as a great Secret in this Disease, the Livers of Frogs taken in the Wain of the Moon, and dried in the Sun, which must be taken a Drachm at a time for several times in Powder. And I give you another, namely Earth-worms drowned in Rhenish wine and dried, and a Drachm of the Powder given about the New Moon for three Months; by which means, I successfully cured two Youths, fourteen years of Age. The Powder and Ashes of a burnt Mole is of the like Nature.

There lies likewise a singular anti-epileptick virtue in the dung of a Peacock, a Stork, a Lion and a Man, upon certain Experience. Some have a way of fermenting & volatilizing them, and so getting a Spirit which smells as well as Musk or Amber. *Cnrselius*, first Physician to the King of Poland, writes, how that King, when he had been miserably afflicted with an Epilepsy, was cured by his Wife's Secundine, after she had brought forth a Son, and valued it more than he did his Scepter. Some Quackish People cry up Box leaves to the Sky. But they do better, who in the beginning of the Fit give

the sharp, saline, volatil Liquor of Camphore, mixt with the Essence of *Opium*: for *Opium* combined with Camphore, and so strengthened by united forces, composes the raging Animal Spirits, and having pacified the Fit, causes a sweet sleep and a wholsom sweat. Among these saline Volatils, Amber or its volatil Salt, or Liquor, or Oyl shines in my Eyes, as the Moon among the lesser Stars. The Blood of an Ass, and of several other Creatures, as of a Cat, &c. taken from behind the Ear, and a few drops of it given, has helped many. Some cry up the Skull of a black Hen, others give the Bones of a Swines Head.

In Obstructions of the *Menses* all such things are good as put the Blood in motion; yet they must not be ever subtil, lest by their levity they rather get into the Head than the Womb, but heavy things, which follow the motion of the Blood downwards, and yet open Obstructions.

And for a Conclusion, to these general Internals we will add general Externals. And the principal are Spirit of Sal Ammoniack held to the Nose, Balsam of Rue, Amber, &c. Balsam of Amber is of excellent use, if the Pit of the Stomach or Navel be anointed with it, And the Crown of the Head may be anointed with Oyl of Amber, but with caution and sparingly, lest it befall you as it befall a Physician, who had anointed his Patient with it and he complaining of a grievous Head-ach, ordered his Physician that when he was dead, he should open his Head, and upon opening it, the Physician found the *Dura* and *Pia mater*, and the substance of the Brain under them marked with a yellow spot the breadth of a Crown Piece, and as it were

phacelated. It is safer therefore to use quilted Caps of cephalick Spices. And besides the aforefaid Balsom the following Liniment may be applied to the Navil.

Take of Bever's grease 2 Drachms,
Sal saturni one Drachm, Oyl of
Amber three Grains. Mix them.

And it will do well to chase the Back Bone with sweet scented Oyls, Apoplectick Waters, Spirit of Lily Convall, Ants, Hartshorn, &c. and sometimes to give four or five drops of the Gall of a young Whelp, and the Heart of a Mole dried.

Divers Plasters also may be made use of, namely *Emplastrum de betonica*, *cephalicum*, *epilepticum*, &c. and oily or sulphureous fumes which are sweet may be used. Also a Plaster of Wax and Oyl of St. John's-wort may be applied to the Pulses.

Amulets of an elder Sprig found on a Willow should not be neglected: nor Roots and Seeds of Peony, which Seeds of Peony extracted in some Liquor in Horse dung one kept as a Secret, wherewith he did Miracles. Elk's Hoof, and such things are now known to every one, and we have given you the Judgment of the Ancients concerning them. The hanging of the Root of Masterwort about the Neck is a new Invention. A live Lizard hung about the Neck does miraculously stop epileptick Fits, this I write upon my own Experience, and also Swallows cut open alive, and applied to the Crown of the Head. And the reer of these Remedies shall be brought up by Transplantation into Beasts, and indeed into a Birch, as the German *Ephemerides*, Ann. 6. and 7. Obs. 11. do relate. And here we conclude this Disease.

CHAP.

CHAP. X.

Of an Apoplexy.

§. I. *Names.*

With my Reader's good leave, I will premise in brief the *Synonyma* of an Apoplexy. It is called *Sideratio* or *Blasting*, *Morbus attonitus* or the *stonying Disease*, *Resolutio nervorum*, and *Paralysis universalis*, an *universal Palsie*. *Paracelsus* calls it *Gutta*.

Description.

It is described to be (by universal consent) *a sudden abolition of all the animal Actions, that is, of Sense and Motion, with the hurt of the principal Faculties, depending upon the hindrance of the Influence of the Animal Spirits*; for the Patients are as it were struck with Thunder, without any sign of Reason remaining, although usually a dulness of Senses preceeds, and oftentimes their Brain is so weakened, that they become stupid in their Judgment. It is called *Attonitus*, because the Mind is stupid as well as the Body; therefore it may be concluded to be a very dangerous Disease, of which few recover, or if they do survive, yet they usually turn Paralytick. None will deny that an Apoplexy has great affinity with an Epilepsy, and agrees with

it in many things, only they differ in this, that an Apoplexy is more dangerous. There is the same affinity between an Apoplexy and Fits of the Mother, a Suffocative Catarrh, and a Lethargy.

Difference.

Yet it differs from these, because in an Apoplexy the Motion is quite abolished, and the Parts remain immoveable, which is not found in the other to such a degree, for they sooner cease and leave less harm behind them. An Apoplexy is judged to be twofold, Phlegmatick and Sanguine, as it arises from Phlegm or from extravasated or stagnating Blood.

§. 2. *Part affected.*

The Ancients held the Part affected to be the Brains, that Tower of *Palmas*, wherein, besides the sensible and motive Functions of the Soul, the principal also are performed, and they thought that it was more especially in the Ventricles of the Brain, and they contend, That it is an impediment rather in the *rete mirabile*, than in the substance of the Brain. for this reason, because of the sudden and

unexpected coming of an Apoplexy. Some of the Moderns take the Nerves and Animal Spirits for the Parts affected; others the whole Brain.

Helmont, that severe Censor of the Physick Schools, in his Tract *De sede Animæ* 1. 10. 12. makes it to be the *Præcordia*, and the left Ventricle of the Heart. *Paracelsus* owns the Brain, Lungs and Wind-Pipes for the subject of this Disease; from whom, his Disciple, *Quercetan* sometimes differs, and blames the Heart. *Willis* thinks the *Corpus callosum* in the *Cerebellum* is the seat of an Apoplexy, and that the Animal Spirits in the *Corpus callosum* are the subject of it. The *Cartesians* prove by reason, that here the Pores of the Brain are ill formed, and obstructed either by Phlegm or Blood distending or compressing the Arteries too much. The most experienced *Wepfer* does not blame the great Ventricles, but the medullary substance of the Brain and *Cerebellum*. Others take the mass of Blood for the subject; but it were tedious to give all Mens Opinions and Reasons. Therefore, to pass by them, we acknowledge the whole Brain, as to its porous substance, for the Subject, but we do not question but the Disease resides in the *medulla oblongata* of the Brain, as in the principal subject, of which I shall say more in the Cause.

§. 3. Diagnostick.

NOW we must proceed to the Signs, by which this Disease shows it self. Head-ach coming suddenly, dulness of Apprehension, *Vertigo*, torpidness, drowziness, chiliness in the extreme Parts, and the whole Body, mist before the Eyes,

grating of the Teeth in ones Sleep, abundance of Snivel and Spittle, &c. often go before an Apoplexy. Yet there is an Apoplexy (but it is most violent) which takes one suddenly, without any of these Signs forerunning. But the Signs of the Disease being present do immediately show themselves, for when Men are taken with it, they are deprived of Sense and Motion, and lie as if they were dead, they rattle in the Throat and breathe difficultly, they fall suddenly to the Ground, and often with a shriek, presently the difficulty of Breathing is so great, that one can scarce perceive Breath, the Patient lies as if he were strangled, and his Breast feels, as if it were tied down with a Cord, and hindered from heaving. All the animal Actions are taken away on a sudden. Respiration indeed remains, and is not quite abolished, because the Nerves, through which the Spirits often flow, are more open, and therefore not so apt to be obstructed. And the respiratory Nerves are very open, and can scarce be so obstructed, but some Pores will still remain open. Some froath at the Mouth, others bring up at their Nose whatever is taken in at the Mouth. The Urine is usually thick, moderate in quantity, of a chaff colour or æruginous, with a settling like meal. The Pulse is sometimes unequal, intermitting, great and languid, though sometimes it is swift. Their Eyes are shut, as if they slept, yet indeed they do not sleep, but lie dull and stupid as stocks. And though they seem to look full on the By-standers, yet they neither see nor hear, nor do they feel, though they be burnt or prick'd, so that not any sign of Knowledge or Understanding appears, the Limbs

Limbs hang lank, and if they be lifted or set up, they fall down like a dead thing; they breathe with their Mouth open, and rattle in the Throat. And to be short, the Patient is like a dead man, only he is known to be just alive by his breath, which may be known by setting a Bason of Water upon his Breast, whereby the Ancients found the motion of the Breast, and by consequence some life remaining. But now Men go a nearer way to work; for the Breath may be found by holding fine carded Wool, a Feather or a Wax-candle lighted, to the Mouth, all which will move at the 1st Breath; or a pure Looking-glass, which will lose its gloss by it. Besides, some motion remains in the Stomach and Guts, though imperfect. And when men can scarce be perceived to breathe at all, we say they have a strong Apoplexy; but when they take some breath, though unequally and disorderly, yet the Patient is in more hopes: for when the Disease is milder, some sense is left, and now and then motion, but so stupid, that there is a kind of Palsy or Numbness remaining. They often falter in Speech, and the Tongue feels stiff: for motion and sense must need cease, when the Animal Spirits come not to those Parts.

§. 4. Cause.

Now having already examined the Signs, we will proceed to the Causes; and first give you other Mens state of the Case. The *Galenists* think, That the immediate Cause is the hindrance of the influx of Animal Spirits into the Nerves, by Humors and condensed Vapors, especially tough, thick

and cold Phlegm, because it obstructs the Ventricles of the Brain, the Original of the Nerves, and the Arteries and the *rete mirabile*, because, as they say, Spirits do in order of Nature flow through these into the Ventricles of the Brain, and therefore if these forementioned Vessels be filled and obstructed, then of necessity the Spirits and Animal Faculties are hindered from being diffused into the Organs of Sense and Motion, and so they mark out the Cause, why a Man is deprived of Sense and Motion. Among the more remote Causes, they reckon Crudities, drunken Debauches, long Watching, a cold Air, over-cold Food, nor do they except *Venus*; all which, as they say, are able to cause an Obstruction of the said Passages, and a dissipation of the Animal Spirits. So they are strongly of Opinion, that a fall or blow on the Head, do cause a Flux of Humors to the Brain, which if they fill the principal Ventricles of the Brain, cause an Apoplexy. In their Opinion some fall into an Apoplexy upon a slight Obstruction, which is caused now and then by thick Vapors, or by a few Humors got into the Ventricles of the Brain.

§. 5.

And upon this occasion I cannot forbear reprehending of *Galen*, a false Disciple of *Hippocrates*, who often wrests his Master's words to his own sense, and sometimes to one quite contrary, as appears in this case, and in several other, where he ascribes this impotency of Motion to the Obstruction of the Ventricles in the Brain, which *Hippocrates* will rather have attributed to the standing of the Blood.

Blood. For, says He, From its standing are extreme chillness, Vertigo's, interception of the Voice, and in this Disease People are Epileptick and half Paralytick. And in another place, And while the Blood is not moved it cannot otherwise be, but that the Body must be quiet and stupid. We shall say more, when we deliver our own Judgment of the Cause.

§. 6.

NOW we must walk in the Hermetick Field, in which great variety offers it self. The Paracelsian Pathologists sometimes make the Cause to be a Cacochymical Mercury sublimate, sometimes a coagulation of the Mercury; and sometimes they say, that a Gutta, according to their Master's Doctrine, is bred of a Martial Poison; sometimes for want of the Synovia, because this Disease is nothing but a separation and defect of the Synovia in the Part; for, say they, a defect of the Synovia causes insensibility and a privation of Motion. But Paracelsus explains this Synovia of his so variously and intricately, that without an Oedipus, no one can apprehend, what he drives at, *Traët. de Gutta Conf. & l. 7. Param. c. 1. §. 4.* where he explains one difficulty by another that is greater. Some of the Hermetick Tribe accuse a Narcotick Salt and Sulphur, which fix the Animal Spirits, but who can recount all their Opinions? Yet all of them in a manner aim at this, That an Acid by coagulation causes all this Disturbance.

§. 7.

THAT severe Critick of the medical Schools, Jan Helmont, frames to himself strange Enemies, namely an Anodyne Poison, and an *Ens Poteſtativa*, for so he calls them, *Traët. de Morb. §. 9.* where he explains how an Apoplexy is bred. Therefore he means a certain Power which takes away Sense and Motion. Tachenius, Helmont's Scholar derives the remote Cause of this Disease from a coagulating Acid, or wild Gas drawn in extrinsically with the Air, which fixes the Spirits, and checks the Motion and Fermentation of the Blood.

§. 8.

SPIBIUS thinks, that the Proximate Cause, that is, the taking away of all the Animal Functions, depends upon the defect or disturbance of the Animal Spirits; and he holds, That the Animal Spirits may be made immoveable and torpid, and that they are deficient either by reason of the straitness or obstruction of some Nerves, or by reason of compression, arising either from Phlegm or an Acid, or because they are cut asunder. And he says, That the Cause of this Disease is, for that the Animal Spirits are not duly separated, through some fault in the Blood, that is, if the Blood be inept, coagulated or replete with a Narcotick Spirit. He also makes no question but the passage of the Spirits is quite intercepted, when the Arteries are broke by any Cause, or when the Spinal Marrow is any way preternaturally straitened. And there is more to this purpose, which I shall not now relate,

§. 9.

And now we will go to our mechanick Conceptions; for in natural Knowledge, as nothing spoils humane understanding more, than the abyss of abstracted Notions; so nothing helps it more than to set things mechanically before Mens Eyes. And this Cartes endeavours to do. He, therefore, and his followers think, That in this Disease there is a too great opening and dilatation of the Pores of the Brain, and the *Plexus Chorooides*, whereby a total Obstruction may easily arise in the Brain and Origination of the Nerves, by a foreign Humor flowing thither, which being made, the influx of the Animal Spirits, is stopt, and when that is hindred, all the Limbs grow flaccid, like dead mens, just as Sails, when they are not extended with wind, hang flapping. And the reason why respiration remains in some measure, they say, is, because the Tubes that reach to the *Septum transversum*, are larger than ordinary, wherefore while there is but little Spirits remaining, the passage to the Heart, the chief Muscles, is the easier. Remotely they blame the Blood or thick *Lympha*, in as much as these being extravasated in great quantity in the Brain, may easily obstruct the Pores and *Superficies*, but especially the origination of the Nerves, by which Obstruction the influx of the Animal Spirits is quite taken away, and an abolition of Motion and Sense must necessarily follow. So they say, that an Apoplexy may also come from an external Cause, a Wound, Blow, a box on the Ear, or Contusion, for the foresaid Reasons.

§. 10.

Now we will give you our Own Opinion. And, to be plain, we take it to be an Acid, that kills the Spirits: for while it stops and coagulates the Blood, the Motion of the Blood to the Brain is intercepted, and so consequently the Motion of the Animal Spirits is hindred, which is the original of the Disease. And we are confirmed in this Opinion, because we have opened some, who died of an Apoplexy, and we found Blood perfectly coagulated in the Vessels; yea, we observed *polypi* in the Heart, and Concretions and Evasions of Blood, but chiefly in the Brain. Wherefore most, not to say all, of us hold, That such as die of Apoplexies, have Blood coagulated in the Vessels, or extravasated in the Brain, which a couple of famous Anatomists, *Wepferus* and *Fracassatus*, do confirm, who observe, That the Vessels of the Lungs were burst by the stoppage of the Motion of the Blood, and an Evacuation ensuing upon the Acrimony of the Acid. Which very thing I observed in a Citizen of ours, who, because he was so Corpulent, and the Parts so fat, that they could not receive the Blood, fell first into a Palsy, and then died of an Apoplexy. Wherefore, as *Hippocrates* says, Fat men rarely arrive at many years: for it is certain that such die sooner than lean People; because they are often exposed (not to mention other Mischiefs) to the Palsy, or to be strangled on a sudden, or to a mortal Apoplexy; as those two instances in *Timæus* l. 6. c. 2. sufficiently confirm. Therefore (to return to our business) Bleeding

Bleeding in all Ages is our chief and last refuge, which the great *Celsus* confirms, when he says, *Bleeding in an Apoplexy either Cures or Kills*. Secondly, The Brain is sometimes over-flowed and drowned by a viscid and crude Chyle, not rightly assimilated to the Blood, or by *serum* or Phlegm, that is, coagulated *serum*, if they stagnate. *Platerus* saw such an Apoplectic Woman, the substance of whose Brain, when opened, was dissolved like Cream, and ran down her Face. And from this Principle an Apoplexy must be either sanguine or pituitous, which distinction if neglected, the Physician must needs mistake. Thirdly, There is nothing more dangerous, than a foetid Narcotick Sulphur, which the Chymists call a *wild Gas*; this is drawn in with the Breath out of the Air, and fixes the Animal Spirits, and checks the Motion and Fermentation of the Blood. I could produce several things more; but let it suffice to tell you, That an Apoplexy may arise from a Blow, Compression of the origination of the Nerves, whatsoever causes it, from cutting the large Nerves asunder, from Fear, and such-like Causes.

S. II. Prognostick.

NOW we have explained the Causes of the Disease, it remains therefore that we spend some time in explaining the Prognostick Signs. For by means of the Prognostick a Physician is enabled to vindicate himself and his Art from the petulant Calumnies of the vulgar. First of all, it must be observed that Old Men are most subject to this Disease, as also they are, who are often overcome with deep

Sleep, who have a heaviness in their Head, an unusual laziness, and swollen Eyes, such as have often a darkness come over their Eyes, and such as have a slender Neck.

Now we may best measure the greatness of the Disease and its danger, by the greatness of the Breath, for in a violent Apoplexy the Breath is so far gone, that it can scarce be perceived; or it is with rattling in the Throat, like dying People; and breathing is reckoned the most necessary of all the Animal Functions; for when it is quite gone, Life is gone. Therefore let no Physician be so fool-hardy as to boast that he can Cure an Apoplexy, especially a strong one, nor let him despair presently, but try all things, which may clear a passage for the Animal Spirits, and let him not neglect his Patient. A milder and less degree of an Apoplexy may be cured, for I, and several others have cured such. Besides what I have said, we have these golden Sayings of the divine *Hippocrates*, to this purpose. *To cure a violent Apoplexy is indeed impossible, and to cure a slight one it is not easie. They that have their Brain gangrened, perish within three days: but if they outlive them, they recover.* And in another place, *A curable Apoplexy arising on a sudden, a slow Fever coming upon it, is mortal.* In a strong Apoplexy, when all the Animal Faculties are sunk, if the Patient rattle in the Throat continually, there can be no hope of a recovery. Amongst the Signs this is one, If in Apoplectic People Sweat break out upon straitness of Breath, it betokens Death at hand; on the contrary, If in such the Fever be violent, and not slow (of which before) it makes some Limb Paralytick.

If the Hemorrhoids happen to Apoplectic People it is a good Sign, but if Coldness and Numbness it is a bad one. According to *Avicen*, all bleeding at the Nose and Ears in Diseases of the Head, is curative and profitable. That difficulty of Breathing in a violent Apoplexy, with an unequal and intermitting Pulse, does presage present Death, *Hippocrates* teaches, Experience confirms, and Reason dictates: Because in such a Case the Enemy has got deeper rooting, and is therefore more hard to be expell'd.

Sometimes a Man relapses into an Apoplexy, or it seizes him after such a certain Time. The Reason of which is, because when the Vessels are once open, they cannot easily be re-closed, which sometimes occasions the Humor to be extravasated again.

A rattling and loud Respiration is often Mortal, but not always; for we found the contrary in one who was taken with a rattling and difficulty of Breathing a whole day together, and altho the Distemper turned into a Palsy of one Side, yet the Patient recovered; but so, as that he was suddenly taken off by the same Apoplexy in the Night-Time six Months after. Tho few recover in this Disease, yet those who do, commonly fall into a Disease of long Continuance, as a Palsy of one Side, and now and then of the whole Body. They often lose their Memory to that degree, that they cannot remember the least Thing, and grow mere Children again. Salivation often cures an Apoplexy, as we have seen an Apoplectic Woman, who for a Year and more, did every day spit more than half a Pound of Moisture, just like Infants breeding

Teeth, which when it ceased, she dy'd immediately.

In Winter when cold Winds blow, and the Skies are very cloudy, this Distemper is wont to be most violent, dividing and tearing asunder the Carotid and Cervical Arteries, from whence an incurable Apoplexy arises. The Case is the same if the Spinal Marrow be cut in two. It is commonly a Sign of Death, if by strong Sternutatories the Patient does neither sneeze, nor is sensible.

§. 12. Dietetic Cure.

THUS much of the *Prognostic*, now we pass to the *Dietetic Cure*, which consists in the six Non-Naturals.

Choose a hot and clear Air; on the contrary, avoid that which is rainy, cloudy, cold, &c.

The Meat must be hot, sparing, easie of Concoction, and which will be soon distributed, such as Chickens, Hens, Capons, and the like, especially Broths. With all their Meats let them use Aromatics, as Time, Rosemary, Marjoram, Sage, Hyssop, Grains of Paradise, Mace, &c.

The Drink, according to the Ancients, must be Mead, or rather, according to the Moderns, Mosel Wine, and in Germany *Michelback* Wine; in which may be infused China-Root, and it may be diluted with Spaw-Water, or with any other Cephalic Decoction. But let the Sick Person abstain from pure Wine, and that which is strong, especially Spirit of Wine, and other Opiates impregnated with a Narcotic Sulphur. For they that Drink too heartily of such Liquors, suffer for it by an Apoplexy.

Instead

Instead of *Exercise* let the extreme Parts be violently rub'd. Let Cupping-Glasses be applied to the Shoulders, and Urtications, or stinging with Nettles ordered. And let the Sick Persons be carried in a convenient hanging Bed, or in a Chariot.

Sleep and *Watching* must not exceed their due Bounds.

Let the *Belly* be kept Laxative, that the Enemy may be turned out.

As to the *Passions of the Mind*, let the Sick Person behave himself like a Man, and be free from the more grievous ones; as Anger, Sorrow or Fear, Fright, and the rest. And therefore let them that are prone to this Disease, most of all avoid any Blow upon the Head, or even any slight stumble.

§. 13. *Pharmaceutic Cure.*

HAVING took a superficial View of the *Dietetic*, we now proceed to the *Pharmaceutic Cure*; and first according to the old *Galenists* Way, who lay the Blame either upon the Humors or too many Vapors, which they therefore endeavor to carry off with the following Evacuators. Such as are *Electuarium Indum majus*, Trochiscs of *Agaric*, *Pilula foetida*, *Cochia*, *de fumo terræ*, *Arabica*, *de lapide Lazuli*, *Hiera picra Logadii*. They also preposterously advise Vomitories rather in the Progress of the Disease than in the Beginning, and as it were, ride backward. Sharp Clysters they use upon every Occasion. When the Sick Person is a little come to himself, and begins to speak and gets Strength, they use the foresaid Purgatives, beginning with the more gentle ones, as, suppose, Clysters.

But they scarce ever prescribe preparing Medicaments, because this violent Disease has no Intermission, but they give them towards the Declension. In a Plethoric Body they order Venesection, but so as not to take away too much Blood at once, but by Degrees, repeating it so often as Occasion requires. Their Averters are, Clysters prepared of Betony, Sage, Hyssop, Marjoram, Rue, Centory the less, Penny-royal, Leaves of Bay-Tree, Seeds of Fenel, Anise, *Coloquintida*, *Hiera picra*, Polypody, Senna, adding a little Salt of Rue, Bay, &c. They also refer hither Suppositories of Honey with or without *Hiera picra*, and likewise hard Frictions with a rough Cloth, strong shakings about the Neck where there are abundance of Veins and Arteries, Vellications of the Hairs both of the Beard and *Pubes*, Cupping-Glasses to the Loins, Shoulders, Jugular Veins and inferior Parts, and with Scarification, Leeches set to the foresaid Places and also to the Hemorrhoid Veins. Divers Erhins and Gargarisms, the Receipts of which may be seen amongst many Practitioners, for it is tiresome to recite Things that are so well known. Hither also do belong Sternutatories of Castor, Pepper, Pellitory of Spain, *Euphorbium* (which is said to cause Sneezing most powerfully, and Purges the Brain by the Nostrils.) Also an Apophlegmatism of the same, a Sinapism of Mustard-Seed with Figs, boiled in Water to the Form of a Plaster.

Their Exciters and Stirrers up of the Faculty of the Brain, which they say is laid asleep, are Perfumes of *Galbanum*, Castor, *Opoponax*, Unguents prepared of the same, &

red

red hot warming-Pan held some distance from the Head, but the Hair must be first shav'd off, for they think the gross and pituitous Humors will by this Means be easily attenuated, like as the Sun melted the waxen Wings of *Dædalus* (if we may be allowed to illustrate one Fable by another.) They put into the Mouth and besinear the Nostrils with Mustard-Seed beat small, mixt with Salt, and macerated in *Aqua Vitæ*.

Corroborators bring up the File, which by them are accounted as Specificks; such as, *Aurea Alexandrina*, *Anacardina*, Mithridate, *Diamusculum dulce*, *Diacorum*, *Diambra*, *Acorus* preserv'd, Conserve of Betony, Marjoram, *Acorus*, Sage, &c.

They affirm that *Aqua Vitæ* in which some of the foresaid Things have been macerated, and Nutmeg, and Castor (which they say is very efficacious in this Case) also the Root of *Acorus*, Sage are of great Use. Sprinkling and Washing the Head shaven with Oil or Water, in which have been boiled Flowers of *Stæchas*, Leaves of *Origanum*, Bay-Tree, Rosemary, Sage, Chamomil, Melilot, Penny-royal, Savory, Nutmeg and Rue, &c. are convenient.

They commend a rubifying Vesicatory Plaster of Oyl of *Euphorbium*, Castor, Mustard-Seed and *Sagapenum*, as also they highly extol the Unguent of Castor and its Oil, *Aqua Vitæ*, and Oil of Lilies, Flower-de-Luce, Nard, Rue, Spike, Nutmeg. They say that Bathing is not convenient till the Patient has got three Weeks over, after that they advise it.

§. 14.

Paracelsus makes a two-fold Cure, Internal and External. The Internal he says is performed by Corroboration, by the Essence of strengthening Minerals, that is, by the highest and greatest Comfortatives, which dispel the Mists and Clouds out of the Heaven of the Microcosm, and bring back the Sun which enlightens the Spirits and all the Elements, and makes them purer and clearer. For this purpose he extols Pearls, Stones, Gold, Gems, Coral, Emerald, *Jacynth*, &c. But he prefers his *Mercurius solis* before all other Things against the *Gutta*, and its Species. But the External Cure he performs by Balsoms, which do their work by cherishing and repairing what the *Gutta* has taken away.

§. 15.

But omitting these Things, let us pass on to *Helmont*, who prefers Vomitories before any thing else, especially if his *Ens potestativum*, which resides in the Stomach, shock the Soul. Therefore, says he, a Vomit of white Vitriol given about the Beginning, cures a new Apoplexy. After that volatil Salts of Stomachic and Cephalic Aromatics do the whole Business, as of Cinnamon, Lavender, Marjoram, &c.

§. 16.

Willis's Therapeutic Method is either Curative or Preservative. Now he that is at other times strong, is, in the Fit, to be kept out of Bed, but he that

is weakly, in his Bed, with his Head pretty high, and forthwith he must be let Blood, after that there must be injected a sharp Clyster, in which may be dissolved *Species Hieræ Diacolocynth.* and an Infusion of *Crocus Metallorum.* Let a large Vesicatory be laid to the Nape of the Neck, and others to the Thighs, and drawing Cataplasms to the Feet. Let the Temples and Nostrils be anointed either with Oils, or Apoplectic and Aromatic Balsoms, and all the Members rub'd so hard as to cause Pain. Also all such Things must be used inwardly as are powerful in rousing up the sleepy Animal Spirits, such as are all volatil Salts, as Salt of Harts-horn, Amber, Mans-Blood; Spirit of Harts-horn, Soot, and the like, which may be now and then given in a Cephalic Julap. After these Things let the Patient take a Vomit of Salt of Vitriol, or an Infusion of *Crocus Metallorum.* Vomiting being over, the foresaid excellent Author flies to Strengtheners, such as are *Elixir vitæ Quercetani*, Spirit of Lavender, Treacle, Camphore, Tincture of Amber, Coral, which may be administred in a convenient Dose in Apoplectic Water. He says that Cupping-Glasses must be applied to the Shoulder-blades and Neck, and that the Spirit of *Sal Armoniac*, or a Suffumigation of *Galbanum* boiled in the sharpest Vinegar must be held to the Nostrils, and that Er-rhins, Apophlegmatisms, and a Purge of *Pilulæ Rhodii* are not to be neglected. If these Endeavours be not available, he orders a red hot Iron to be holden, at some Distance, to the top of the Head when shaven. The Fore-head and fore-Part of the Head must be fo-

mented with *Acetum Bexoarticum*, and Leeches must be set to the Temples and behind the Ears.

This Author's *Preservatory Method* is as follows. At the Spring and Fall, and each Solstice, he advises Purging and Bleeding; but that altering Cephalicks must be now and then taken as occasion requires, amongst which he reckons *Spiritus Salis Armoniaci succinatus* or *Coralliatum*, or impregnated with Castor or Man's Scull, or Elixir of Peony and Tincture of Amber given to drink in Water either of Lavender, or Rosemary, or black Cherries. He also bids his Patient drink the Decoction of Tea or Coffee every Morning, and such Drinks as these he frequently advises. I am not willing to enlarge any further, seeing that the chiefest Things are mentioned already, and such as I my self have found successful by Experience.

§. 17.

SOLBIUS dissenting from the rest in the business of Vomits, will not allow any to be given; saying, That since a Vomiting cannot be raised unless the animal Motion of the *Diaphragma*, especially of the Muscles of the *Abdomen*, do assist, which is quite abolished in an Apoplexy, therefore nothing can be expected from Vomits, but a vain Endeavor, and, it may be, some ill Effect upon that: But if the Disease proceed from a *Narcosis*, or drinking too much Wine, in that Case alone he will admit it. To draw the Blood to another place, he thinks it most of all convenient to breach a Vein, either in the Foot or Arm; and to bleed very plentifully. But if the Blood stick in the Brain, and is already

ready extravasated there, he persuades the Use of Apophlegmatisms to draw it gently to the Palate and Nostrils. But he thinks that the oppressed Animal Spirits should be refreshed with Spirituous Things, especially if the Apoplexy be caused by a Puitous Humor, in which Case also he advises Errhines, Sternutatories, which, he saith, may very well be prepared of Marjoram, Rue, Flowers of Lily of the Valley, *Nigella*, Sow-bread, wild Cucumbers, Gentian, Tabaco, Cubebs, Mustard-seed, &c.

This Author commends sharp Purgers, such as *Euphorbium* and *Scammony*, but with great Caution, highly extolling Setons, Cupping-glasses with Scarification, Vesicatories behind the Ears, Venesection, lest that the vital Flame should be suffocated in the Heart, from whence Death in Apoplexticks does necessarily ensue. But in old Men he orders bloody Scarifying instead of Blood-letting.

The fore-said ingenious Author makes no Account of Plucking the Hairs, Pinching the Fingers, shaking the Body, Frictions and Ligatures. On the contrary, he saith, that all Aromaricks are convenient, But not to be tedious :

§. 18.

WE pass on to the Cartesian Pathologists, who relying upon their mechanic Principles, endeavour with all their Might to remove the Obstructions in the small capillary Vessels and the whole Brain, and that those little Pipes may be cleansed from the peccant Matter. To this End, if the Apoplexy proceeds from Blood, they advise to let Blood freely, but if

from Phlegm more sparingly. They allow of Frictions with hot Cloths, and Spirituous Things, for by this means they do not doubt, but that the Animal Spirits may be rouzed up, and also that thereby the Matter sticking in those small Vessels may be more easily discharged. They would have stinking Things to be held and put into the Nose, bright Things to the Eyes, and volatile Salts to the Mouth. They prove by Reason, that gentle Clysters should be given in the beginning, and sharper presently after.

About the beginning of the Disease they order an Emetic or strong Cathartic, but do not admit of Salivation by Mercury, because it may cause the peccant Matter to flow more copiously into the Brain.

If the Sick Person be raised with the Use of these, we must proceed further to such Things as open Obstructions and Strengthen, as the Cephalic, Specific, Salts and Spirits of Amber and Urin, not neglecting in the mean Time to use Spirituous Things externally, because they convey much Coelestial Matter into the Head.

§. 19.

THUS far of the Opinion of others in subduing this Disease, now we will give our Own Advice, as we have found by our own Experience. Wherever therefore the Enemy be lodged, he is to be expelled by a Vomit. For let *Sylvius* say what he will, Vomits have been found by Experience to do a great deal of good. To this purpose these following need no Commendation, *Tartarus Emeticus*; *Oxyac-*

charum, Emeticum à D. Ludovic. correctum, Aqua Rulandi, Vitriolum album, &c. Or,

Take *Syr. Emet.* fix Drachms, Cinnamon-Water an Ounce. Mix them for one Dose.

With these Things very often the Enemy is overcome, for as the old Proverb says, *A desperate Disease requires a desperate Cure.* But respect must always be had to the Patient's strength, as well in this, as in all other Cases, which *Platerus* and *Hoferus* caution as well as we.

If this desperate Enemy hath invaded the Mass of Blood, he is to be ejected by Venesection, which we admit of in every Apoplexy, and in all Ages, yea in extreme old Age. To the timorous we grant, instead of Blood-letting, Leeches, or Cupping-Glasses with Scarification.

Sharp Clysters may also be used. *Ex. gr.*

Take of Rue, Rosemary, *Origanum*, Leaves of *Asarum* of each one handful, Flowers of Arabian *Stæchas*, Centory the less, Lily of the Valley of each one handful, Root of *Aristolochia rot.* one Ounce, Master-wort, Pellitory of Spain of each half an Ounce, *Carthamum*-Seed ty'd in a Rag two Drachms. Boil them in common Water. In one Pound of the Colature, dissolve of the Electuary of *Hiera picra* with Agarick one Ounce, Gall of a Bull one Drachm, Essence of Sage, Rosemary of each two Scruples, *Mel anthosfat.* one Ounce. Mix them, and make a Clyster.

To this End also we may prepare Suppositories. *Ex. gr.*

Take of the Gall of a Bull thickned, Juice of Rue each one Scruple, Centory the less half a Scruple, Salt of Rue one Scruple. With a sufficient quantity of *Mel anthosfat.* Make a Suppository according to Art.

Afterward, that the Enemy may be quite routed, and the Edges of his Weapons turned, we advise the use of spirituous Things, such as are all Apoplectic Waters, Spirituous and Odoriferous. Also volatil Salts, as well of Vegetables, as of Animals and Minerals. Amongst Vegetables are Cephalic Herbs, and divers Aromaticks, and their volatil Spirits. From the Rank of Animals such Things may be taken as are volatil, as Harts-horn, the Scull and Bone of a Man, Man's and Hart's Blood, the volatil Spirit of Ants, and their Salt. Of the Class of Minerals these Things are profitable; *Liquor Cornu Cervi Succinatus, Tinctura Auri Clauderi.* But we most of all commend saline volatil Spirits; as the Spirit of Soot, for if the Virtues of it were better known, we should not need to fetch Drugs from the *Indies*. For the sake of young Practitioners, I will set down a Prescription or two.

Take *Spec. contra Apoplex.* one Drachm, *Sal volat. Succini* fix Grains, Amber-grise five Grains. Mix them, and make a Powder for three Doses to be given with an Apoplectic Water, or this which follows.

Take of Water of Lily of the Valleys, Mint of each an Ounce and an half. Spirit of black Cherries half

half an Ounce, *Liquor Cornu Cervi Succinat.* three Drachms, distilled Oil of Amber four Drops, Syrup of Buck-Thorn one Ounce. Mix them to give by Spoonfuls. Or, Take of Salt of Harts-horn, Amber of each one Drachm, Magistery of Amber half a Drachm, *Ol. still. anthos.* six Grains, of Lavender five Grains, of Amber ten Grains, white Sugar three Ounces. Mix them. Of this our Apoplectic Powder half a Drachm may be took twice a Day.

Fixt *Alkali's* do also far excel Volatils, being both convenient for imbibing the Acid, and dulling its Points. We also highly value a Specific against Apoplexies, prepared of the Seeds of Mustard, Rocket and Garden-Cress which abound with a volatil Salt. And Spirits of Lily of the Valley, black Cherries impregnated with the volatil Salt of Harts-horn and a little Camphore by reiterated Cohobations. We also upon our own Experience commend volatil oily Salts, as that great Medicine of *Sylvius*, to wit, his *Sal volatile oleosum*.

The Apoplectic Spirit of *Mæbius* is of great Virtue:

Take of the Flowers of the Lily of the Valley six Pounds, Cinnamon one Pound, Zedoary half a Pound, Saffron one Ounce, Mace, Cloves of each half an Ounce. Digest them a Month in a sufficient Quantity of Spanish Wine, afterward destil them *per Vesicam*. Afterwards,

Take of the Root of Valerian, Swallow-wort, Peony of each one Ounce, Leaves of Baum, Oak of

Jerusalem, Rosemary of each three Handfuls, Flowers of the Line-Tree six Handfuls, Lavender, Spike, Sage, Time of each one Handful. Let them steep in the Spirit above-prescribed for a Month in a Vessel well closed. Destil them *per Vesicam*. Add of Spanish Wine as much as needs. Last of all rectifie it in a Bath, with Amber, Mosch and Camphore.

Those Things which young Practitioners ought always to have in readiness, are the following;

Take of *Aq. apoplectica, cephal. nostr.* of each an Ounce and a half, *Hirund. cum Castor.* half an Ounce. *Sal. volat. oleos.* half a Drachm, Spirit of Lily of the Valleys a Scruple, Syrup of Buck-Thorn six Drachms. Mix them and give it by a Spoonful at a Time. Or, Take *Aq. Epilept. Lang.* one Ounce, black Cherries, Flowers of the Line Tree of each two Ounces, Spirit of Lily of the Valley one Drachm, Syrup of Clove-gilly-Flowers half an Ounce. Mix them. Or, Take of Water of Baum with Wine, black Cherries, Lavender, Lily of the Valley of each one Ounce, apoplectic Water six Drachms, Spirit of Lily of the Valley, Cherries, Mother of Time of each one Drachm, Syrup of Primroses or Clove-gilly-Flowers half an Ounce. Mix them. Or, Take the Epileptic Spirit of an Elk's Hoof half a Drachm, the volatil Salt of Man's Scull, Amber of each five Grains, Tincture of Castor half a Scruple, Essence of Amber six Drops, Water of Rosemary three Ounces, Syrup

of *Stæchas* two Drachms. Mix them for twice taking. This may be available both to preserve, and cure in the Fit and out of it. Or,

Take *Spiritus Vin. diaphoret. Helmontii* half a Drachm, *Aq. apoplectica* an Ounce. Mix them for two Doses. Or, Take of the Spirit of Man's Blood, *Spiritus apoplectic. Myns. Aq. magnanimitat.* of each one Drachm. Mix them. The Dose is fifteen Drops.

Universals being premis'd, the the Essence of the Woods is mightily commended, a Drachm of which may be given twice a day, also *Mynsicht's* Infusion of *Sassafras*.

Also if you cohobate the Spirit of Cherries upon Vitriol, you will have a potent Remedy against this Distemper.

Cinnabar of Antimony and Mineral Cinnabar is also a great Remedy in this Disease, But if these last Medicaments produce a Fever, you need not be afraid, for it is a certain Sign of Recovery, if they cause a warm and moderate Sweat. For then you may give the Patient joy of his Health.

If *Serum* abound in too great Quantity, then purging is necessary to carry it off. Also Vescatories must be applied to the Nape of the Neck and the Wrist. Likewise let the following Sternutatories be snuffed up the Nose.

Take of *Sal Vitrioli* one Drachm, Water of Marjoram one Ounce, Spirit of Lily of the Valley one Drachm. Mix it.

Also the following Mixture may be put in a Glass with a strait Neck.

Take of the Spirit of Wine camphorated, *Volatil Sal Ammoniac.* of each two Drachms, Hartshorn, Soot of each one Drachm, Tincture of Castor half an Ounce. Mix them.

Or, let this which follows be put into the Nose.

Take of the Oil of Flower-de-Luce, Tabaco of each one Drachm, destilled Oil of Marjoram six Drops. Mix them. Or, Take of the Powder of the Flowers of the Lily of the Valleys one Drachm and an half. With a sufficient Quantity of Oil of Tabaco and Mosch, make a Liniment. Or, Take of the Juice of Betes, Pimpernel, Marjoram of each one Ounce and an half. Mix them.

Or, Let the Nostrils, Temples and top of the Head be bathed with rich, spirituous and odoriferous Balsams. *Ex. Gr.*

Take of *Balsam. Apoplectic.* Roses, *Lignum rhodium* of each a Drachm and an half. Mix them, and put it in a Box. Or, Take of the Balsam of Marjoram, Rue, Amber of each half a Drachm, *Balsamum Apoplectic. Crollii* one Scruple. Mix them.

Let the sick persons chaw Grains of Mastich, Root of Florentine Orrice, or Nutmeg.

We saw an Apoplectick Person brought to speak again by Spirit of Castor and Mother of Time. That which follows is also very good.

Take *Extract. Theriacal.* of Sage of each one Scruple, Spirit of Lily of

of the Valleys, black Cherries of each half a Scruple. Mix them and let the Tongue be anointed therewith. Or, Take of Treacle one Drachm, *Confect. anacardin.* two Scruples, Essence of Sage one Scruple. Mix them for the Tongue.

If this Distemper proceed from an unseasonable Use of narcotick Opiates, you may give a Vomit, after that put Castor in all your Medicaments, and rather, chuse such Things as are spirituous and sulphureous than saline: For spirituous Things do take away the noxious Impressions that are already made by narcotick Spirits, as Acids do preserve from their Impression.

So long as the Fit lasts, let the Cause be what it will, you must inject sharp Clysters of *Elect. hiera picra*, Oil of Rue, adding *Alumen plumosum* and *Sal gem.* You may also add, to make it pierce the better, Essence of Sage, Rosemary, Lily of the Valleys.

You may also rub the Soles of the Feet with Vinegar and Salt; and and if all these Medicaments do no good, but a fatal rattling siezes the Patient, in this Extremity we fly to the last Remedy, according to these Verses,

*Si non morbosos sanant medicamina,
ferrum*

Arripe, fin frustra, pharmaca ignis erit.

Hæc tria ni possunt agris adferre salutem,

Amphitryonidis robur inane cadet.

I am for actual Cauteries which operate very potently, amongst which *Moxa* excels all other, for

if it be applied to the top of the Head, it is often a present Remedy; as also an Infusion of saline volatil Liquors into the Veins of sick Persons, for thereby the congeal'd and stagnating Blood is more easily dissolved. This is very much commended by *Etmullerus* my very good Friend, and *Claudius de la Courvée*.

The back Bone is to be anointed with divers spirituous Things, and other aromatick Liniments. For the sake of young Practitioners we set down the following Liniments, which may be used to the Back, Neck, and other Parts of the Body.

Take of the Oil of Bay-Tree an Ounce and an half, Amber two Drachms, Harts-horn one Drachm, Lavender half a Drachm, *Axungia Castoris* one Scruple. Mix them and make a Liniment.

But if the sick Person have an Aversion to fat things, you may use this which follows.

Take of *Spirit. convulsiv. n. d.* one Ounce, of Ants one Drachm, Harts-horn, Tincture of Castor of each half a Drachm, Mix them. Or, Take of Water of Baum with Wine, Lily of the Valley with Wine, *Aq. apoplectica* of each an Ounce and an half, Spirit of Lily of the Valley one Drachm, Vinegar of Rue as much as is sufficient. Mix them. Or, Take of *Spirit. convulsivus nostr.* one Ounce, *Essent. ad membra* one Drachm, Water of Sage, Betony, St. John's-wort of each half an Ounce. Mix them. Or, Take of Spirit of black Cherries, *aq. apoplectic.* of each an Ounce,

Oyl of Amber half a Drachm.
Mix them, and anoint the Back
bone therewith.

For prevention sake Spirit of
black Cherries, and Vitriol poured
upon calcin'd Gold, and several
Times cohobated, is good, if three
Ounces be took by a Spoonful at a
Time.

We add this as a Conclusion,
That the sick person may wear a
Cap lined with a Wolf's Skin,
which we have known many Prin-
ces to have used for Preservation,
but with what Success we know not.

Neither are quilted Caps made of
Aromaticks to be neglected.
Ex. gr.

Take of the Leaves of Rosemary,
Penny-royal, Baum of each three
handfuls, Amber three Drachms,
Juniper-berries two Drachms and
an half, Flowers of Roman Cha-
momil three handfuls, Lavender,
Baum, Primrose, Arabian *Stor-*
chas of each two handfuls, Sha-
vings of *Rhodium* three Drachms,
Benzoin, *Storax calamit.* of each
one Drachm, Mosch three Grains,
Mix them.

CHAP.

CHAP. XI.

Of a Palsy.

S. I.

IT is not for nothing, that we subjoyn a Palsy to an Apoplexy, because a Palsy for the most part follows an Apoplexy, when Sense and Motion return. If you would have its Etymology, it comes of the Greek Preposition *παρά* & *λύε-δαι* to loose. It is called *Nervorum resolutio*, a resolution of the Nerves; by *Paracelsus*, *contractura*; by *Platerus*, *particularis Apoplexia*, a particular Apoplexy. It is described to be a privation or abolition of Sense and Motion, either in the Body (which is rare) or in some parts, depending upon the relaxation of the nervous Parts, and the animal Spirits, by reason of the obstruction of the one or other Trunk of the spinal Marrow: For the spinal Marrow (that this description may the better be explained) is distributed into two Branches; if therefore, the morbidick Matter insinuate it self into the spinal Marrow, so as to obstruct both Branches, then they

think a total Palsy does arise; but if one Branch only be obstructed, then a Palsy arises either in the right or left Side. And we make no Question, but a Palsy may come in the Jaw, Tongue, Eyes, Feet, Hands, Arms, Fingers, Lips, Eyelids, *Sphincter ani*, Bladder and Neck, (which is confirmed by the German *Ephemerides Ann. 3. obs. 334.*) since we daily see that this or that part is deprived of Sense and Motion, and no Man will deny, that it may so happen, that any part may be deprived of Sense, the Motion unhurt; and on the contrary, it may be deprived only of Motion, the Sense remaining entire. Now and then also it happens, that neither Sense nor Motion are wholly taken away, but they only are dull and stupid: and then we say, this part labours only of an imperfect Palsy; yet, so as that it is sometimes a fore-runner of a true Palsy. Wherefore, a Palsy is reckoned to be twofold, a bastard and true. It is called a true

one, when the part neither moves nor feels; a ballard Palsy, when it only feels and does not move, or when it only moves and does not feel: And this is because of the more or less Influx of animal Spirits into the Nerves, and into their Tubes or Pores.

Motion remains and Sense is dull in that sort, which we call the Sleep of the Limbs, where the Motion remains, but the Sense is in some measure diminished, and sometimes depraved; for they feel, as it were pricking of Needles; and this arises, because by the inconvenient posture of the Limb, the Nerves and Arteries are compressed, so that the Humors move not into the Tubes of the parts, which therefore, remain empty. Wherefore, when the Limb is altered in its posture and stirred, presently the Spirits flow through the Nerves and empty Tubes, which, because they are sharp, they by run in; up and down, and pricking the Fibres of the Nerves give that Sense of pricking, as it were with Needles; but it is quickly mended; because the Humors presently run into the Tubes and fill them. By the Definition here laid down it appears how, and by what bounds, this Disease is parted from such as border upon it

§. 2. *Difference.*

A Palsy according to Practitioners, differs from an *Apoplexy* and *Numbness* in degrees: therefore it is called by some a particular *Apoplexy*. For an *Apoplexy* afflicts the whole, and often kills. A Palsy takes some one part. But a *Numbness* is a Sense of Pricking, and is an Abolition, not so much of Motion,

as of Sense, or rather a Diminution of them; and this is often a fore-runner of a Palsy. Yet some contend, That Abolition of Sense and Motion is required to the Form and Nature of a perfect Palsy. For this Cause therefore, Impotency of Motion differs from a true Palsy, as a thing taken in a large Sense, from one in a strict. I shall add something, but it is only the vulgar Opinion, In regard of the Subject, that is said to be universal, in which the whole Body, except the Head, is seized, and then the beginning of the spinal Marrow is thought to be affected: But if one side of the spinal Marrow be affected, then it is called an *Hemiplegia*.

An universal Palsy is a great rarity; yet six Years since I met with one in a Woman at *Limburgh*. But it is called *Paraplegia*, if some Limbs on both sides be hurt. A Palsy is called old and confirmed, which scarce admits of Cure; or new and not confirmed, which, though it do not easily admit of a Cure, yet oftentimes, by applying proper Remedies, Health is restored. It would be tedious to recount the differences in regard of the Causes, which the curious Reader may of himself find out by the deduction of Causes.

§. 3. *Part affected.*

According to the Opinion of the Ancients, in an universal Palsy, the beginning of the spinal Marrow, to wit, the primary original of all the Nerves, is most grievously affected, in which the Moderns do differ little from them. But since several Organs are required to animal Motion, it is worth the enquiry, Which of them ought to be

esteemed the principal Part. All are Might and Main for the Nerves: for when a Palsy of the one side or the other happens, then the Nerves of that side (which are separated, the right from the left by a Membrane) are hurt. And so according as there is an Obstruction of the Nerves on the right or left side, or on both, so the Hurt of that side does necessarily follow. Willis takes the *Corpora striata*, the *Medulla oblongata*, and the Nerves for the part affected: For according to him these Bodies perform the Functions belonging to Sense and Motion; and sometimes some determinate part of the Body wants Sense or Motion, because according to the Author's Opinion a Nerve is dissolved, from whence the decayed part otherwise received Sense and Motion. Wherefore, we ought with all Diligence to endeavour to know the Distribution of all the Nerves, and from what part of the spinal Marrow each part has its Nerves, about which he discourses exactly and ingeniously. Syblius blames the Muscles, or Animal Spirits for the Subject.

Cartes, Famous for the Acuteness of his Invention, takes the Nerves, the Conduits of the Animal Spirits, for the Subject; for says he, *P. P. Artic. 7. Now it is known, That all these Motions of the Muscles, and that all Sense depends on the Nerves, that are like small Threads or little Tubes, which arise from the Brain, and contain, as the Brain does, a certain subtil Air or Wind, which is express'd by the name of Animal Spirits.* But how these Nerves and Animal Spirits serve for Motion and Sense, he adds in another Section, namely, That it is a continual Heat, implanted in our

Heart, which is a kind of Fire, and is the Author of all the Motion of our Limbs. Here might be an opportunity of adding several things more about Motion and Sense, according to the ingenious Author's Mind, how, while the Soul governs, the Muscles filled with the influent Spirits, are contracted, and draw the annexed Muscle with them. But our Business will not allow it, you may therefore consult the Author himself, *lib. de Passionibus animæ.*

We take the *Medulla oblongata & spinalis*, and the Nerves, and all these Tubes, that is, the Rulers of the Animal Spirits, for the principal Subject: for no other Vessels appear in Man's Body, which primarily convey these vivifick guests, beside that third sort of Vessels, the Nerves. Therefore we reckon the proximate Seat of this Disease, to be in the Nerves, they being primarily affected; and we, as all Anatomists do, distribute the spinal Marrow into two Branches, the right and the left; when the right is hurt, the Palsy is on the right side; and when the left is hurt, on the left. But for the adequate Subject, we take the Muscles, supported on every hand by Motive Fibres, which are deprived of Motion and Sense, not so much through their own fault, as of the Nerves inserted in them, that have suffered the like prejudice.

§. 4. Signs.

THIS Disease has no need of reckoning up many Signs. Difficulty of Sense and Motion, because of the stopt influence of the Animal Spirits, frequent Numbness, with a Sense of pricking in the Limbs, *Vertigo* and a mist before the

the Eyes, shew it is imminent; sometimes thickness of Hearing precedes it; but generally a Palsy follows an Apoplexy, as the Shadow does the Body: Oftentimes also it takes one unawares.

Now the pathognomonick Signs are plain enough, since no one can be ignorant, That that part has a Palsy, which is deprived of Sense and Motion: But besides, the part, when it is ill nourished, grows lean for want of Blood, loses its natural Heat and Colour, and becomes cold and flabby to the Touch. In a Palsy, a sudden loosning of some part is caused, so that the Patient can move neither Hand nor Foot on that side. Sometimes a Swelling may be observed in Paralyticks, and a Contraction of the Fingers, that is, while some Sense is yet remaining. If the paralytick Part be lifted up, it falls back again by its weight, and easily grows cold. Hereupon, the Muscles being loosned, and unable to agitate the Blood that is brought to them, the Blood stagnates, and being destitute of light, ceases to be spirituous, and grows rapid. The Urine is generally white and thin. The Side that is taken with the Palsy is often cold, and the other hot; also the Eye, Mouth and Lip of the Side affected, are contracted, and drawn on one side. If the Jaw or any part of the Face be Paralytick, it is drawn to the sound side. In this Disease, as we said before, the Sense is perished, the Motion entire; sometime Motion is abolished, Sense surviving, and often both are lost; that is, when the Disease is confirmed; then the Pulse is languid, slow, little, sometimes none. In a scorbutick Palsy especially these saluage, acid Particles are able to stop the Circulation, and by their

coldness to congeal the Blood, and to make it unfit for Motion. If the Sphincter of the *Anus* and the Bladder be paralytick, then the Excrements and Urine come away involuntarily. The other particular Palsies of the Tongue, Lips, Eyelids, Eyes and Neck, are manifested by the hurt Action, on recounting of which we will insist no longer.

§. 5. Cause.

Now I will give you the Causes of these Diseases out of Principal Authors. In the Front comes *Antiquity*, which derive this Disease from a cold and moist Intemperature, to wit, from Phlegm or a watery serous Excrement, which by long tarrying grows thicker, and obstructs the Nerves. They say, That a Nerve of the spinal Marrow is sometimes obstructed, or rather compressed by an Apostem or some Humor, but that it is most frequently caused by thin watry Humors, derived from the Brain, which easily insinuate themselves into the Substance and Porosity of the Nerves, whence the Nerves being made over soft, are loosened and relaxed, and imbibe so much Moisture, that the Origination of the Nerves is stopt; so that the Passage of the Animal Faculty is hindred, which has its Original from the Brain, as from its first Principle. They also think that this Disease is often caused by gross Vapors got into the Nerves, which often make so great an Obstruction, that the Passage of the Animal Spirits is hindred, whereupon the Nerves grow flaccid, and as it were fall flat. This they endeavour to make out by several Reasons, which we shall forbear

to mention, since the Books of *Galenists* are full of them.

§. 6.

Paracelsus owns the Cause and Generation of an Apoplexy and a Palsy to be in a manner the same: for he often confounds them, or makes them only to differ in their Subject. And, so far as we are able to guess, he blames Mercurial Vapors, carried into the Principle of the Nerves, and into the Nerves themselves, and talks of I know not what *gutta*, that runs down the Body. That Vapors are a Cause, he proves by the weakly Limbs, shaking, and oftentimes the Palsy of Goldsmiths, and such as make Looking-Glasses; and likewise by other Instances of such, as having filled their Heads with the narcotick Steams of Wine, have fallen into a Palsy for some days. Some of his Tribe accuse the Tartar lying in the mass of Blood.

§. 7.

Helmont *Tr. de Lithiasi* c. 9. p. 60. §. 82. & 62. concludes, That a Palsy is a Contracture of the sensitive Parts, caused by Fear alone (so he says) which has a property to shut the Pores immediately, especially if it be sudden: Therefore, he says, Women, who are generally fearful, do often upon a fright fall into a Palsy without an Apoplexy. He therefore takes the falling Flegm for a Cause, and then Fear, which stirs up the Apoplectick Poyson, and so causes a Contracture of the sensitive Parts. In another place, he says, this Disease is caused, if the Parts be watered with a foreign and devious Spi-

rit. *L. spir. vit.* §. 9. But because these things are obscure, I have no mind to wrest them to my Sense.

§. 8.

Willis, that Famous Pathologist, blames the Obstruction of the Passages, and the impotency of the Animal Spirits for the conjunct Cause of this Disease, as they are either narcotically affected, or being small in quantity, do not exert themselves briskly enough: therefore in a general Palsy (which often follows an Apoplexy or Lethargy, and other Diseases, because of a Translation of the morbifick Matter) the Animal Spirits are hindred from their usual Irradiation or Influx into the nervous Kind, and so the Limbs must of necessity flag. But according to him, not only the Obstruction of the Nerves, the Porters of the Animal Spirits, do offend in this Disease, but the Obstruction also of the *Corpus striatum*, and sometimes of the *Medulla oblongata*, and *spinalis*, which if they be loosned, and the Animal Spirits do not sufficiently irradiate, puff up, and by their vigor actuate them; and it cannot otherwise be, but the Parts must grow flaccid, and a Palsy follow.

He makes the mediate morbifick Causes to be not only oppilative, but sometimes narcotick, which extinguish the Spirits. For he maintains, That some extraneous, and, as it were, vitriolick Particles, admitted within the Organs of Sense and Motion, do close the Pores, and deject the Animal Spirits, yea, keep them from Motion, and cause a Blasting as it were in Trees. He proves, that this Disease is seldom caused by mere Phlegm or Serous Filth,

Filth, because they that are of a moist Brain and Hydrocephalick, rarely fall into a Palsy.

§. 9.

Sylvius suspects, that this Disease arises either from want of Animal Spirits in the Muscles, or from straitness in the Passages, that is, of the Nerves, or from immobility of the Animal Spirits, caused by a Drowsiness and Stupidity. Among the more remote Causes he reckons a watry Moisture, which is able to make the Fibres of the Muscles soft and flaccid. And he adds, That all those things which can obstruct or straiten the Nerves, are apt to produce this Disease, among which he reckons Phlegm falling on the root of the spinal Marrow and causing either a *Paraplegia* or *Hemiplegia*. He holds, that Wounds and all other things that cut the Nerves, and all Narcoticks, which render the Animal Spirits torpid and immoveable, do contribute to it.

§. 10.

Cartes acknowledges the want or weakness of the Animal Spirits to be the immediate Cause of a Palsy, and after his way illustrates it by a mechanical Conception. He says, that the Animal Spirits puff up the Muscles, as Wind does Sails, which ceasing, the Sails slacken and flap. Therefore when the Animal Spirits are stopt, or flow not in plentifully enough, a flagging and relaxation of the Nerves and Muscles must needs ensue, upon which Sense and Motion cease.

And so the patrons of the nervous Juice, think, that a Palsy arises from nothing, but the thick re-

crements of the nervous Juice, obstructing the unseen passages of the Nerves. But they that will have a nervous Juice, build upon a tottering Foundation; concerning which in another place I shall professedly treat.

§. II.

IT remains, now we have seen other Mens, to produce our own Opinion. And we reckon the Cause to be the stopt Influx of the Animal Spirits into their Conduits. These Spirits are the internal Movers, and are very subtil, so that you may deservedly with *Horace* calls them

— *Divine particulam auræ,*

For they are the most subtil, saline and sulphureous Particles of the living mixt Body, under a due and uninterrupted Contiguity and Quantity, endued by GOD with a motive and operative Power, according to the Properties and Organization of the Body, which they inhabit. For ALMIGHTY GOD is the first Mover. For as (they are *Helmont's* Words) the motive Spirits dart the vital Light, dispensed by the Nerves; they carry the pleasure of the Will, or Motion to the Muscles, the executive Organ of the Motion, which the Soul arbitrarily proposed to its self. For the irradiative Light sent by the Spirits being intercepted, no doubt, but a Palsy is caused. *Bartholin* confirms this in *Anat. Reformat. c. de Nervis* p. 454. And like as the Sun by the interposition of a Cloud, and the light of a Candle is taken from us by the hand; so the parts deprived of the light of the Animal Spirits, are deprived both of Sense and Motion. For the Nerves are only porous, thorough which

nothing but this light and most subtil parts can pass. As the Rays of the Sun can pass thorough Air and Water; so Dirt and Mud in water can hinder its shining clearly, as *Pergamentus l. 1. de Sympt. c. 3.* elegantly delivers himself, herein concurring with the Moderns. For we make no question, but this Light is a subtil, moveable, volatil and active thing, whence it has the name of Spirit: Yet, that they are subtilly material, we gather from hence, Because they consist of saline and oily, or sulphureous Particles, and therefore of the most subtil and active ones; And then these Particles both in the Bodies, wherein they are contained, and drawn out of them by Art, and united with the Phlegm of the Air, or of their own Body also, are called Spirits. And this will appear more clearly, if one do but consider,

——— *Halantium germina florum.*
Hortenses pictura thoros, pastura ve-
nustis
Deliciis oculos, & odorum flumine
nares.

For who dare deny, that these Scents, which exhale from the Flowers of Plants, are the active parts thereof, since even out of their Body, which before they inhabited, they show so great Subtily and Activity, that one cannot imagine any thing to show more?

Certainly they are nothing else, but the most subtil, saline-volatil oily Particles, flowing from the seminal Oyl of Plants, dissolved by Fermentation, which being some way moved, affect our Nose in that manner, which we call Smell. For when this Oyl is taken away, Flowers breath Fragrancy no more.

And Oyls are nothing else, but volatil Salts, concentrated with the sulphureous and seminal Fatness by Circulation. But to our proper Business; just therefore, as the day is without Light, or the Air without Commotion; so is the Body without Spirits. All things grow lax, flaccid, and run to their own Destruction. Now this Flaccidness is from the Obstruction of the Nerves, because when the Nerves are obstructed, the Spirits do not freely flow into them, so as sufficiently to distend them; and therefore, the Tubes subsiding, the Nerves must needs grow flaccid. Let us a little examine the more proximate, mediate Causes, and we shall find either an Obstruction or Inundation, which either stops the Animal Spirits quite, or makes the nervous and muscular Fibres soft and flaccid. And this Obstruction and Inundation are made by a vicious Blood, or by a diluting Serum: for these, according as they offend in Quantity or Quality, or Motion, may raise a Palsy, and extravasated Blood especially falling upon the Pores of the Brain or Nerves is the Cause of this Disease, as we see daily in those, who become Paralytick after a Fall, where always in a manner Blood is found extravasated; concerning which you may see *obser. 65. Ephemerid. German. Ann. 3.* Oftentimes a serous Matter invades the Brain, and besets the Pores of the spinal Marrow, especially if the Serum (which is also called *Lympha*) be coagulated, and it is easily coagulated by an Acid; which coagulated *Lympha* is also called Phlegm, and is that useless viscid stuff in Man's Body, which is able to stop the Pores of the Nerves. But here we exclude no Acid,

Acid, coagulating Mercurial Humors, especially austere and bitter ones. And, if we give our Conception of these last, by *austere* Humors we mean obtusangular Particles; by *bitter* ones Particles more rectangular; and we may liken the bitter to a skreeking sharp Saw, and the austere to a blunt one. Such figured Particles may easily obstruct the passages of the Animal Spirits. Nor do we exclude tartareous and other sulphureous Impurities, discharged upon the *Spina dorsi* and the origination of the Nerves, from obstructing the blind passages, which are the way of the Animal Spirits. For we all grant, if *Serum* fall within the spinal Marrow or *Vertebra's*, that by its weight the Nerves are compressed, and from thence an exclusion of the Animal Spirits, and an Abolition of Sense and Motion must of necessity follow: from whence we may see that cold does remotely contribute something, because it coagulates the *Serum*. So *Cummius* in *Ephem. Germ. Ann. 1. Obs. 84.* has observed, how two persons, who tarried too long in the Cold emptying a Well, were taken with a Palsy in all their lower Parts. For without all doubt the *Lympha* is encreased and coagulated by cold, and therefore we make no question, but it may make Men Paralytick. We read a History of this nature in *Galen*, of one that went too long wrapt up in a wet Cloak, who fell into a Palsy in his Arms, and of another that sate naked upon a cold Stone, who fell into a Palsy in his Legs. Besides, no one will deny, that *Serum* being heavy in Bulk, and preternatural in Quantity, may insinuate it self into the subtil Passages, and by stagnating there may grow tough, and so cause an Obstruction. And luxations of the

Limbs prove, That this Disease may be caused by compression of the Nerves, when, upon the influx of Animal Spirits being stopt, the parts also labor of an Atrophy; which sort of Palsy *Wedelius* observed in *Ann. 2. Ephem. Germ. obs. 230.* to be caused by crookedness. When a Nerve is cut in sunder, a Palsy of that part must necessarily follow, to which the Nerve should direct the Animal Spirits; for so their passage is stopt. Thus, a Nerve in the Arm being cut, that Finger which was directed by it, will be stiff. I have observed an Immobility and Numbness both of the Arm and Hand, succeed upon venesection ill administered, which the *German Ephemerides* also confirm. These *Ephemerides* also in *Ann. 2. obs. 63.* testifie, That a Palsy has been produced by Worms in the Arms and Legs; so no Man, who is not a stranger in Physick, can be ignorant, that this Disease may be caused by a scorbutick Taint, that is, by a bundance of serous Humor, and acid, bitter, pontick, saline and tartareous Dregs abounding over much in the Blood, carried to the origination of the Nerves, or to the Nerves themselves. And there is nothing more pernicious, for spoiling our Animal Spirits, and making the parts flaccid, than Narcoticks, which dull the lucid Spirits, those brisk and nimble Guides of Motion.

And this Disease often arises from the Colick, to wit, by a translation of the morbidick Matter to the Nerves: Which Colick Authors derive from a bilious Intemperature; but how truly, I question; for it seems to me, That bile without Flegm joyned with it, cannot hurt the Guts, because by its Fluidity and Acrimony it only gently

wellcates the Guts; and rather opens than stops the Pores: But if there be Phlegm also, then by clinging close to the Guts, and insinuating it self into their Pores, it will produce a greater Mischief, by its continuance there, so that then the colick Pains may arise, which will scarce be removed by emollient Clysters. And we have no great reason to be troubled concerning the passage of that Matter, which breeds the Palsy and obstructs the original of some Nerve or other, that tends to the Limbs. For a blind Man may see, That the Cause of this Evil lies about the membranous Parts of the Mesentery, which have commerce with the spinal Marrow, and therefore may easily obstruct the Nerves, that come out of the spinal Marrow. For those Nerves, which are disseminated from the *Plexus* of the *Abdomen* into the Mesentery and Guts, have almost every where commerce with the lumbar Nerves, as it were by mutual inosculation: And this we observe, That oftentimes a scorbutick matter lodged in these parts, seizes the greater Nerves, and causes a Palsy on one side or both. In every Palsy therefore the original of the Nerves should especially be observed; and for this reason we should be diligent in Anatomy, that we may know the distribution of all the Nerves, and from what place of the spinal Marrow every part has its Nerve, lest it befall us, as it befall some in *Galen's* time, who applyed nervine Topicks to the Paralytick Hand it self, which were proper for the Spine: for whatever Nerve imparts Sense or Motion by means of the Animal Spirits to any part, that Nerve must of necessity be affected in the loss of Sense or Motion,

And thus we have endeavoured briefly to give you our guess, without pomp of words or scrupulous doubts: yet take notice of this, that sometimes truth lies in a thing incredible, and falsity in a thing likely to be true; And it is better to suppose these things from certain Tokens and Reasons, than to fly to the refuge of Occult Qualities, as several Physicians and Philosophers rashly do, who, when they are mistaken, turn the fault of their Judgment into a Complaint of the incertitude and difficulty of the thing. Therefore sometimes I had rather give a dubious Conjecture, whereby doubts may the more easily be cleared, than by rash assent adore another Man's unsound Opinion: for *Carneades* doubts, *Pyrrhus* deliberates, *Simonides* begs time. But now to the Prognostick.

§. 12.

THE Physician, who here makes his Prognostick not rashly, but according to *Hippocrates* his Mind *Prorrh. 5. 3. l. 5.* with great providence, acts most prudently; and therefore until he have duly weighed the strength of the Patient and of the Disease, he will say nothing positively about either Life or Death. In the *Interim*, we must take notice, it is a Disease very hard to cure, upon account of the peccant Matter, and also of the part affected, to wit, the spinal Marrow.

A perfect and confirmed Palsy is a Chronical Disease, and is not over in two or three days, but lasts more Months and Years, especially if it follow an Apoplexy. But that which comes from a scorbutick Taint, or from colick Pain, is more easily and sooner cured (*ceteris paribus*) than others

others. A Palsy from the cutting of a Nerve in sunder is incurable, and also that which proceeds from a Fall, Contusion, Luxation and the like, is very dangerous, of which we had a Case in a Noble Maid, who lived in the Princess of Nassow, my most Serene Lady, her Court: She fell into a Palsy five years after a Luxation, which holds her to this day. But that which comes from an inundation of *Lympha*, may be cured by proper Remedies. A perfect and universal one is more difficult to cure than an imperfect and a particular one; for instance, of a Tongue, Finger, Leg, &c. A Palsy coming in Winter, and in Old Age, is scarce ever cured. It comes sometimes from a weak Apoplexy, and is in danger of turning to an Apoplexy again. If a Fever or Trembling supervene, it is commonly held to be a good sign: yet that Rule sometimes fails; for in a young Man, twenty six years of Age, at *Camberg* I observed a Trembling and Fever did concur in a Palsy, that followed an Apoplexy, and for all that he died. There is more hope if there be no Atrophy in the paralytick Part; which if there be, it is a very bad sign, for it shows, That the Humors are either not carried to the part, or that they have obstructed the part, which obstruction it will be very difficult for the Physician to remove.

If some little Sense come again, if the Disease be agreeable to the Age, as the Divine *Hippocrates* reckons, if both the internal and external Senses be safe and sound, though Motion is lost, if trembling or pain follow, it is accounted a good sign. If the Eye on the paralytick side be not lessened, if the Patient keep his Strength without

Head-ach or *Vertigo*; if also (as we said before) there be a Fever, there is hope. But the Case is bad, when the paralytick part feels cold to the touch, because it shows that very few Spirits are carried by the Nerves, and therefore we judge, the Nerves are strangely obstructed. It is bad also, if the Excrements and Urine pass involuntarily. *Hippocrates* l. 2. *Febrilis* gives this Case a black Character. *If any one be ill in the spinal Marrow, and if after a Fall, or any other Cause, a man be deaf, and when he is touched, if he feel not, and if at first he neither goes to Stool nor makes Water, unless forced; but when the Disease is inveterate, if the Excrements and Urine come away, without the Man's Will, then he dies within a little time.* In Old Men a Palsy is incurable, because the Nerves of the Parts are hard, and the Fibres thick and not pliable; wherefore Obstructions bred in them are not easily removed.

If a Man's mind be presently stupid, it is bad; but it is otherwise, if a critical *Diarrhœa* supervene. A Palsy ends in Death, when an Apoplexy and Consumption; and colliquative Sweat follow it. If Convulsions follow a Palsy, Authors call it a scorbutick Palsy, because then there is a saline or acid Acrimony, vellicating the Nerves, which is also bad, because there is a Complication of Diseases.

There are many Diseases; upon which a Palsy comes, namely, an Epilepsy, Apoplexy (the matter being discharged into a more ignoble part) Colick, Tertian Agues, the Scurvy. *Brassavolus* mentions, how a Palsy followed bleeding at the Nose, the Animal Spirits, that is, being exhausted. If a Palsy come upon an Apoplexy, it is dangerous;

because it is apt to turn again to an Apoplexy.

§. 13. Dietetic Cure.

Hitherto we have been viewing one Hemisphere of this Disease, now we will take a view of the other, that is, the Cure, where the Diet first presents it self, which consists in those six nonnatural things, which are well known to have dominion over our Bodies. Among these Air takes the first place, according to *Hippocrates* §. 3. aphor. 1. *Alterations of the Seasons especially breed Diseases, and in the Seasons great alterations of Heat and Cold are made.* Therefore a hot, dry and serene Air is to be chosen, which must be procured by a good Fire, if the time of the year require it, or by aromatic Fumes. On the contrary, a rainy, moist, cloudy, and especially a cold Air must be avoided. For *Helmont* l. 1. §. 61. does upon good ground call the Cold of the ambient Air *Narcotick*. It is universally held, That cold things are Enemies to the Nerves. I can say little here, as to the influence of the Stars, yet I am uncertain, whether a famous Man be not in an Error, when he attributes a peculiar virtue to the influence of the Stars. In my Practice I have observed that Palsies and Apoplexies come most in the Full Moon. Here I could produce *Cartes* his Reason, of the Sea's Ebbing and Flowing, ascribed to the Increase and Decrease of the Moon, since the same inundation may happen in the Microcosm, as it does in the Macrocosm. But since uncertain Conjecture dares not pick out particulars, nor prove universals, we sus-

pend our Judgment, till we can enquire and prove by experience, what we ought to think of the influence of the Stars.

The *Meat* must be heating and drying, therefore let the Patient eat Flesh roasted, & other Meats of good Juice, season'd with aromatic Herbs, Rosemary, mother of Thyme, Sage, Majoran, &c. Nor must a man eat excessively or disorderly. On the contrary, he must avoid all meats of a bad juice, as Salt, smok-dried, and sowre Meats, milk Meats, and the like, which were endless to mention.

The *Drink* must be little; let the Patient drink Sage or Rosemary Wine, or Mede, or Water wherein Sage has been boyled. Beer aromatised, and well fermented and clear, may be allowed; and also drinking of *Tea*. All seculent, generous Wines must be utterly avoided, as *Hungarian*, strong *French*, *Italian* and *Spanish* Wines, because they have a subtil tassar in them, that is sharp and hurtful to the Nerves, as *Paracelsus* tract. 2. de contract. c. 5. testifies. And the trembling joynts of *Bacchus's* Heroes, and such as offer sacrifice to him whole nights, confirm the same, who thereby do not only disturb Chylification, but stupifie the animal Spirits, and so turn Executioners to themselves. But drinking of Brandy or *Aqua vite* (rather *mortis*) must above all be forborn, because these, as all narcotic and soporiferous things, mortifie and banish the animal Spirits.

Let him *Exercise* the paralytic Part moderately, but forbear all violent motion; for such wearies the Limbs and waists the Spirits. And too much *Rest* also renders the Body flaccid, by filling the Head with serous matter: for Waters, except they move, must needs corrupt and

Putrefy ; and just so the Blood and Serum grow ropy , and thereby become fit to cause Obstructions.

Sleep must be moderate, day sleep and long sleep are naught. And they take no good course with themselves, who are too much delighted with *Morpheus* his pleasing Phantasms : for so, upon the approach of an Enemy from abroad the Brain may be drowned, which inundation threatens an unhappy Issue, either in a palsy, or in an Apoplexy. Too much Watching also is naught. For it exhausts the animal Spirits, and weakens the Brain, and whole nervous kind.

As to the *Excreta* and *Retenta*, Stool and Urine ought to pass according to Nature, every day, if possible. Other usual Evacuations, such as the *Menses*, Hemorrhoids, Sweat, &c. should be made in due time, or procured.

As to the *Passions* of the Mind, the Patient should study to be cheerful, whereby brisk, subtil, saline, volatil and oily Particles are bred in his Blood, of which afterwards animal Spirits are made, which are the most subtil Part, yea, the flower of the Blood. Far off therefore be his Enemies, Grief, Sadness, Care ; for such as emaciate themselves with the Passions of the Mind, put a Sword to their own Throats. I have known several, who through Grief and Care have fallen into a Palsy. Anger must be wholly avoided : for the trembling of the Joynts and Tongue testify, what an Enemy it is to the Nerves. Fright also and sudden Fear should be avoided in this Disease : though there be a rare Instance in *Valeriola*, how violent Commotions of the Mind have done good in this Case ; for Fear fixes the Spirits.

§. 14. *Pharmaceutic Cure.*

NOW that we are come to the Pharmaceutic Cure, we must know that the Old *Galenists* commend Preparers in a Palsy, such as *Hydromel*, *Oxymel*, decoctions of Florentine *Iris Root*, Flowers of Sage, French Lavender, Nutmeg, Cinnamon, *Mel rosarum*, *Scylliticum*, Water of Sage, Betony, Majoran, &c. They extol the drinking of a Decoction of Sage and other aromatick Herbs for four or five days. After these things they prescribe various Evacuaters, such as *pilula cochiae*, *de agarico*, *foetida*, *maftichina*, &c. *hiera dia colocynthidos*, *dia catholicum*. But in this Disease they use Pills more than Eleotaries, because they think, Pills draw the matter better from remote Parts.

They hold that a Vomit should be given once a week, of some of their known Vomits. If a Palsy come from abundance of Blood, (which it seldom does) and the Body be plethorick, they allow and advise bleeding on the sound side. And when the Patient has used these things three or four times, then they betake themselves to Revellents, among which Clysters made with Sage, Chamomil, Majoran, Marsh-mallow, Rue, adding a little *hiera picra*, *Sal gemma*, and some boyled Oyls, are good. Here also Masticatories present themselves, of Nutmeg, Pellitory of Spain, &c. also Gargarisms, Cuppings, *Nasalia*, sneezing Powders, Frictions with a coarse hot Cloth, and they apply Blisters to the Neck. When all these things are done, they fly to Corroboraters, which strengthen the Brain and Nerves, and are said to amend all manner of Intempe-
ra-

nature, such as Treacle, Mithridate, *Diambra*, *Diamoschu dulce*, Preserved Ginger, Conserve of Sage, Betony, Rosemary Flowers, Galangale, &c. a Decoction of the Woods and *acoris* Root, Ginger, French Lavender, Ground-Pine, &c. They foment the paralytic Part with a Decoction of Aromatics. They make a Bath for the part affected of a Decoction of a Fox. They first anoynt the part with Oyl of a Fox, and then wrap it in his Skin. They make Baths their Refuge, as well sulphureous as nitrous, either Natural or Artificial. They put the Patient in a sweating-Tub twice a day, and they apply heated Stones besprinkled with hot Wine; and when they come out they are put to bed, and take a Drachm of Venice Treacle, and they order the Nerves to be anoynted with some proper aromatic Oyl. Among things that strengthen the extreme Parts, they extol *Unguentum Agrippæ*, de *Castoreo*, *Nardo*, ex *Pipere*, Oyl of Chamomil, Worms, Rue, *Philosophorum*, Bays, Turpentine, *Costinum*, Sulphur, &c. But I will not write Iliads after Homer.

§. 15.

THE Paracelsists use the same Cure both in an Apoplexy and a Palsy, whose Master lays down a twofold Cure, depending on a twofold Cause, to wit, a *Resolutum siccum*, and a *Resolutum coagulatum*. The first *Gutta* he endeavors to cure with this following.

Take of Extract of Spike, Lavender, *Cheiri* Flowers; each three Ounces, *Axungia de Mumia*, Man's Marrow each one Ounce and an half. Mix them.

But he cures a *Gutta* from a *Resolutum coagulatum* in this manner.

Take of Extract of Pepper, Cardamom, Castor, *Anacardium*, Oyl of Bays, Dill each one Ounce and an half, Nutmeg half an Ounce. Mix them.

Lib. 7. de gradib. c. 2. He says, Lavender is a great Medicine in this Disease, and also Baum, sometimes Betony, Castor, Pepper, fat Oyl of Sulphur; yet he adds, that all things are not good for all People. In *lib. 5. de venæsect.* he condemns bleeding in the Toes, but he is for opening a Vein before the Fit comes, where he shews the manner and time of doing it. In the Palsy he says, comfortable and strengthening things must be given by themselves, such as *Aqua vitæ*, Essence of Lavender, *Aurum Potabile*, Liquor of Pearl, &c. He has this process.

Take of pure *Sol* purged by Antimony two Drachms, Water of Sal gemm six Ounces, reduce them into one with a Separation of the Spirit of Wine; then take of Saffron two Drachms, Alcohol corrected six Drachms: the Dose from three Grains to four or six. Or,

Take of *Sol* prepared one Scruple, Lavender Water corrected with Alcohol of Wipe and Spike each one Ounce: the Dose one Scruple.

He highly commends *arcantum Sulphuris* in Palsies and witherings of the Limbs *tr. 2. de memb. contract.* The Description of it follows.

Take of Flowers of Sulphur half a pound, white Antimony two Ounces, Juice of Gold one Ounce, *Aqua Vitæ* circulated ten Ounces. Digest them a Month. The Dose is half a Drachm.

He also commends Pearl, Balsam of Antimony, *arcantum quintessentia*; Oyl of Vitriol, &c. For to purge, he mixes powder of Man's Bones with purgatives. After Internals he also delivers several Externals, he makes Fomentations with Locusts of the fir Tree and tops of Juniper. He orders the Part to be anoynted with Fox Oyl and *Galbanetum Paracelsi*. He commends natural, strengthening and hot Baths. If you would have more, consult him.

§. 16.

FOR now we will go to the *Helmontians*, who highly value volatil Salts, especially such as are made of cephalic Aromatics: and they highly extol Vomits in this Disease, such as emetick Tartar, white Vitriol, *asarum Root*, &c. and other Experiments, which the first Author of this Sect, that accurate Observer of distillations, knew, which we must conceal, because they still lie buried in Obscurity.

§. 17.

WHEN the Palsy comes from an external Accident. to wit, a blow, falling from on high, a wound, excess of cold, or the like, because in these Cases there is an Efflux of Blood, and Humors, he advises bleeding, and to keep the Belly always open with a Clyster, then to put the Patient to bed and give him a gentle Sweat, that the serous superfluities may gradually exhale, and the animal Spirits being gently agitated may do as they were used; for which end he commends *Pulvis ad casum*, described in the *Augustan Dispensatory*, and the Traumatick Decoction with root of Madder or butter-Bar, or flow-

ers of *St. John's Wort*. If there be a Tumor, Contusion or Wound, he applies divers Balsams, Liniments, Fomentations or Cataplasms to the part affected; and if the part be dislocated, it must presently be replaced: If no swelling appear, then he commends *emplastrum oxycroceum, de minio*, &c. Sometimes he will have the paralytic Limb put into horse Dung or hot Grains and held there a good while. In general, he is not for bleeding in this Disease, because the animal Spirits are both bred of the Flower of the Blood, and become elastic within the motive Fibres, by reason of the *capula* of the Blood; therefore if the Blood be diminished, the Spirits will fail, and the Limbs of necessity will flag.

He commends Evacuations about the Equinoctials, and especially a Vomit of *tartarum emeticum* about three or four Grains, Sulphur of Antimony, &c. Among Purgatives he chuses Resin of Jalap, *Pilula de succino* or *aloephangina*; he advises the giving of cephalick Medicines after them, and between whiles, such as Electuaries, Powders, Spirits and volatil Salts, Tinctures and Elixirs, with distilled Waters. For the ordinary Drink he commends Beer medicated with Sage, Betony, French Lavender, Sassafras wood, *Winter Bark*, the whole year long. Issues may be made in the sound Arm or other Parts, especially in fat and cachectic Persons. In a bilious or hot Palsy, he advises the forbearance of Medicines that are hot and endued with active Particles; and in this Case he only admits of gentle things. In a scorbutic Palsy, juices and distilled waters of antiscorbutic Herbs, mixt with Cephalics, do the work. He

He commends topical Remedies, especially about the Part affected. He advises to put the paralytick Limbs into the Belly or Breast of a Beast new killed, or in a Bath, for a good while. Diaphoreticks are good in some Constitutions, but not in cholerick ones. He says, likewise, That Salivation has cured several.

§. 18.

Hippocrates in a puerile Palsy, 1. Purges. 2. He gives Errhines, Sternutatories and Apophlegmatifms. His Purges are Phlegmagogues, but especially *Mercurius dulcis*. For he observes, That Mercurials are good to purge Phlegm, and Antimonials for Choler. Issues, Setons in the Neck, and Cuppings are good; and bleeding, if there be a Plethory or shortness of Breath. Sudorificks are good to correct the Humors. And outward applications are very proper. If it proceed from a *narcosis*, sharp things endued with a lixivious volatil Salt, will cure it.

§. 19.

The Cartesians first give a gentle Purge. Then they correct the viscid Blood, they open the Pores of the Brain and the Nerves by Sudorificks, and they use Tartar, to extract the virtues of the Simples the better. And last of all they give strengthening and astringent things.

§. 20.

Our own Method is this. First we purge the coagulated *Serum*. If an Acid abound, we give Antacids. But always in Purging we must consider the Patient's strength. And in this case gentle Purgers are best. Aloe-ticks are good. And divers Infusions and medicated Wines. But Preparers must be given first, made of Incisers and Abtorbents. Vomits are proper, especially *tartarum emeticum* made after *Ludovicus* his way, from one Grain to five. Diaphoreticks also are good. Where an Acid offends, volatil Alkali's are proper; and volatil urinous Salts, and solid fixt ones do good, as they ferment the Blood, and rarefy the Animal Spirits, and they being rarefied free themselves of the narcotick Recrements, and expel them out of the Body.

We are furnished with Matter for them out of the three-fold Kingdom, as *Sal cornu Cervi succinat. volatil.* and (not to seek abroad what we have at home) Salt and Spirit of Soot: If you had rather have that which is dearer, you may make use of Essence of Castor, Spirit of *Sal Armoniac. Liquor C. C. succinat.* and other volatil things.

We also reckon oyl Volatils to be of singular use in this Case, by which we have recover'd many; amongst which *Scheffer's Balsamus nervinus* far excels all the rest; which is usually prepar'd of Salt of Harts-horn, volatil Oyl of Mace, and Spirit of Wine; Preparations of Vipers are likewise very good; with the volatil Salt of which the Excellent *wirelius* cur'd the Prince of *Nassaw*, who was sick of this Disease. Sometimes precipitating, fix'd or dulcifying and Absorbent *Alcali's* do the work; especially when mixt with other Specifics, *wedelius's* Absorbent, describ'd in his *Opiologia*, is very efficacious; to which, if there be occasion, may be added *pulvis lumbricorum*, *terra succin. prepar.* or their volatil Salts.

Take *Bezoard. Mart.* twelve Grains, *Pulvis absorbens Wedel.* one Scruple, *Marchion.* half a Drachm. Mix them, and divide it into three equal Parts for three Doses. Or,

Take Water of *Carduus Benedictus*, Germander of each one Ounce, *Spir. C. C. succinat.* twelve Grains, *Essent. Antimon. tartarizat.* fifteen Grains, Syrup of *Scordium* as much as will serve to sweeten it. Mix it for a Draught, and let the sick Person dispose his Body to sweat.

Besides all Preparations of Vipers, are very sovereign in this Distemper both taken internally, and applyed outwardly. *Ex. gr.*

Take *Off. microcosm. prep.* three Drachms, of the back Botie of Vipers one Drachm, *Cinab. Antimon.* four Scruples. Mix them, and make a Powder, of which give a Scruple at a time. Or,

Take *Tinct. Bezoart. Essent. lign. compos.* of each a Drachm, *Spir. nistr. Cephal.* a Scruple. Mix them. Of which let the Patient take every Morning for several days in what quantity he pleases.

But volatil Salts are the best in this Case, as also in all cold Distempers commonly so call'd; because they compose the enraged Spirits, and by their Particles which are Volatil; piercing and grateful to the Nerves, insinuate themselves into their Pores, and run quite through them; and by that means give a free Passage and Vigor to the Animal Spirits, encreasing them as one fire does another. For the sake of Beginners we will add a Receipt or two.

Take *Pulv. Cephal. D. Michaelis* half a Drachm, *Magist. Cran. human.* Castor of each ten Grains. Mix them for two Doses.

Take Water of Lily of the Valley half an Ounce, Volatil Spirit of *Sal Armoniac.* two Drachms. Mix them. Or,

Take *Elixir. Cephal. Tartarizat.* two Drachms, Spirit of *Sal Armoniac.* half a Drachm, Oyl of *Marjoram* five Grains. Mix them. Or,

Take *Spir. Secundinar. Liq. C. C. succinatus* of each one Drachm, Essence of Castor half a Drachm, of

of the Woods one Drachm. Mix them. The Dose is twenty Drops.

In a scorbutic Palsy, and that which comes from the Colick, let such Remedies be apply'd as serve to invigorate and strengthen the Brain and Nerves, mixt with strong Antiscorbutics; which cannot be better done than by putting absorbent and precipitating Medicines to antiscorbutic Remedies, which being thus mixt, are of wonderful Use. *Ex. gr.*

Take Spirit of Scurvy Grass, Brooklime, *Elix. Propr.* prepared with the Spirit of Scurvy Grass, *Spirit. lumbricor. terr.* of each a Drachm. Mix them. Spirit of Tartar dulcis'd, Tincture of Mars, Vitriol of Mars, *Pulvis D. Michaëlis*, are very good; and Diuretics are also very proper to remove the tartarous Recrements, as the fowre and feculent *Saum*, or the impure and wild Salts. *Ex. gr.*

Take of the Salt of Germander, Ground-pine, *Scordium* of each a Scruple, Tartar vitriolated half a Drachm, *Lap. Cancr.* two Scruples, Oil of Cloves one Grain. Mix them, and make a Powder to be divided into eight parts for so many times taking.

But in this Case sulphurous Baths are proper; for *Citellus* says, He has known divers thrown into a Palsy out of a Colick, which was formerly Epidemical amongst them, and perfectly cured in a short time by these Baths. The most famous Dr. *Charleton* in his Treatise of the

Scurvy, (reports) the same of the Bath in *Somerset-shire*.

If the Palsy come by taking Narcotics immoderately, as we have sometimes observed, then the Physician must ply the Patient with Medicaments that abound with a volatil lixivious Salt and other saline Volatils, as the Essence of Castor, &c.

Besides these Pharmaceutics, we advise Chirurgic Operations, but bleeding is not to be advised in this Case; for seeing we find all the Parts feeble in Paralytics, what else can be the effects of bleeding, but to pour forth the precious Balsam of Life already brought so low, which done, the Soul departs? Yet we do not intend to reject Phlebotomy; for in a particular Palsy that comes by a Fall, or Stroke, or from the Blood, &c. we allow it. And also if the Hemorrhoids or other customary Evacuations have been stop't for some time, we then approve it, as also if it happen in the beginning of a resolving Apoplexy that turns into a palsy. So likewise we forbid Cupping with Scarification, which do only torture the Patient, and attract foggy Mists and wild Particles that obstruct the Passages.

Now, that the Spirit and Heat with the Blood may be deriv'd to the Parts, and that a lively Tone may be brought to the loosened Part, we advise rubbing, especially when the Sense once fails; nor do we think that stinging with fresh Nettles is to be neglected; which is to be us'd once or twice a day, till the Part grow red.

We like Setons and Cauteries very well, as *Sylvius* also does, for they evacuate the serous Matter. If the Distemper come from Com-

pression, a Wound, Contorsion or Fracture, those parts must be put in their proper places with all speed imaginable.

Amongst outward Topics we commend above all other, the wonderful artificial Balsam laid to the Nape of the Neck: But to the back Bone these that follow.

Take *Unguentum Martiatum*, *Nervinum* of each half an Ounce, Oil of Bricks, of Amber of each half a Drachm, *Ol. Petrol.* one Drachm. Mix them. Or,

Take *Unguentum Nervinum* one Ounce; *Ol. Anthos*, Amber of each one Scruple, boiled Rue three Drachms, Spike, Sage, Juniper of each half a Drachm, *Balsam. de Peru. nigr.* one Drachm. Mix them. Or,

Take of *Unguentum Nervin.* two Ounces, Oil of Earth-Worms one Ounce. Mix them.

Oil of *Cantharides* mixt with other aromatic Oils, and the outward Parts anointed therewith, is an excellent Remedy.

Let the Belly of a Stork or Cock be fill'd with appropriate Medicines, then let it be roasted. The Fat that drops from it, is very good in paralytical Distempers.

Spirit of Earth-Worms, Ants and Wood-Lice, &c. will not prove ineffectual. But let this be caution'd in the mean time, that Oils fry'd by themselves or Fats be not too frequently used; for by their Viscidity they stop up the Pores, so that they must be diluted with hotter things, as Tinctures, Spirits of Wine, and other spiritous things; as *Hæffer* observes with us.

We approve of Fomentations, Washings, Perfumes of proper Herbs and Aromatics, which may be infus'd in the Spirit of Wine, and afterwards destill'd; for these spiritous things penetrate, sweeten, irradiate and strengthen the Parts. For this end we commend the following antiparalytic Essence often found by us to be very good for the Members.

Take of the volatil Salt of Hartshorn one Ounce, dissolve it in an aromatic Liquor, and add of the two precious Resins which the Sea throws forth of each four Ounces, of the Essence of sweet smelling Mummy two Ounces. Mix them, and keep it as a Treasure against the Palsy. Or,

Take of the Spirit of Lily of the Valley, *Aqua Apoplectica Langii* of each one Ounce, Essence of Castor a Drachm. Mix them, and with this let the Back Bone be anointed from the Nape of the Neck to the Hip-Bone.

Sternutatories, Perfumes, Baths both Natural and Artificial have a share here; where sulphurous, bituminous things are much better than nitrous. The frequent Use of Artificial Baths, wherein are put Pine leaves and Ants, with nervine and pargoric Herbs, and likewise made of Minerals, are very Excellent in this Case; for they strengthen the loose Parts, restore the Tone, and digest and dissipate the Humors that are got into the parts, that the Spirits may the more freely rove, and discharge their Offices.

And this was the Method of the famous *Borrhus* an Italian Physician, who put several Animals, as, Foxes, Dogs,

Dogs, Ants, Swallows, &c. in a Kettle together, and so made a Bath of 'em. Whom a great and most famous Chirurgeon did successfully imitate; who made Unguents and Oyls of the same Creatures, very proper for this and such like Diseases.

To conclude, by that Excellent Invention of Transfusion we have sometimes cured the Palsy. We

have likewise many times, with good Success order'd the paralytic Parts to be put upon hot Things made of Barley, and the Entrails of several Animals. Nor must the Physician give out, for tho by these means the Patient be not presently cur'd: yet he must not despair; for it is a Chronical Distemper, and so he must often revolve in his Mind what *Hippocrat.* says, §. 2. *Aph.* 52.

CHAP.

C H A P. XII.

Of a Convulsion.

§. I. Etymology.

A *Convulsion* is deriv'd from *Convullo*, to pull together; and *Spasmus*, from *σπάω*, to contract; because that in this Disease one may observe both the beginning and end of the Muscles to be pull'd and contracted together into one. It is also abusively call'd a *Cramp*. A *Spasmus* or *Spasm* differs from a *Convulsion*, in that the *Spasmus* is always dolorifick, but a *Convulsion* is not so.

Definition.

IT is usually defin'd, *An involuntary, constant and painful Contraction of the Muscles, proceeding from a more inward irritation of the nervous Parts, or a too strong Inflation of the Animal Spirits.* I said *Involuntary*; because this Disease forcibly moves the Nerves, or their Fibres and Muscles without the consent of the Will, and so there is an involuntary Motion in a Part, which before had a voluntary one; and it is painful, because it seizes those parts which have the most exquisite Sensation.

Difference.

A S to its several *Species* or rather Degrees; sometimes the whole Body is taken with a sudden Convulsion, as in a *Tetanus*, where the whole Body is upright and stretched out; in which Case the Beginning of the Nerves is thought to be hurt. In an *Emprostotonus* and an *Opisthotonus* all the parts of the Body are bended; in the first, forwards; in the latter, backwards. Sometimes all the parts of the Body, except the Head, are twitcht together; sometimes the Head only is drawn backward towards the Back. But it most frequently happens that some one particular part is contracted, as the Eye, the Gullet; (so that the Patient cannot swallow) the Tongue, the Skin of the Forehead, the Neck, the Leg, Arm, Toe, &c. There is likewise a gentler sort of *Spasmus*, for it often in a very short time goes away of it self, sometimes it abates merely by rubbing, which sort of *Spasmus* does seldom continue above an hour, and this is it we often perceive in our Legs, Ankles, Fingers and Toes. Some have their
Legs

Legs and Arms, so closely contracted by it, and sometimes their Hands, that all the strength of the by-standers is scarce enough to bring them to their right posture again, before the Fit be over. Others have their Mouths spasmodically contracted, which they call *Spasmus Cynicus* and this is when the broad Muscle of the Mouth being contracted only in one part, makes the Figure of a grinning Dog: but if both parts be contracted, it looks like one laughing, and is call'd *Risus Sardonicus*. If, besides this, the Muscles of the Temples and Jaw-bones be irritated and contracted, together with a gnashing of the Teeth, it is call'd *Trismus*. Sometimes the Mandibles are so clos'd, that they can never be open'd.

§. 2. Part affected.

Authors differ greatly about the Subject of the Convulsion. The Ancients thought the Brain to be primarily affected, but the greatest part conclude the Muscles, some the Nerves, and some the Animal Spirits, as being the Instrument of Motion.

Some few, who follow *Willis*, say, It is the Tendons; many, the *Caro fibrosa*, because fibrous and membranous. *Sylvius* and others the *Cerebrum* and *Cerebellum*, together with the beginning of the Roots of the *Spinalis Medulla*. Thus others. Our own Opinion now follows: Laying it down first as a certain Truth, That there is the same Subject of voluntary or natural, and involuntary or preternatural Motion, and that, according to the Opinion and Joynt Consent of Anatomists, the Muscles full of nervous Fibres, are

reckon'd the Instrument of voluntary Motion. We do conclude that those Muscles are also the Organ and adequate Subject of that involuntary spasmodic Motion, which *Helmont* also proves, saying, that the Muscles have two Motions, one in which they observe the Will: and the other when they are carried on by their own Motion, without the Will. And this last is also twofold; the first, when contracted by one continu'd Violence, as in the Cramp. We observ'd likewise in the foregoing Discourse, that a Convulsion is immediately caus'd by an Irritation; for we frequently see that the muscular Flesh one while seems to be cut, at other times prickt, without any Convulsion, and on the contrary, that Convulsions frequently come from the pricking of the Nerves and Wounds in the nervous Parts, as may be seen by the bite of Serpents, Vipers and other poisonous Creatures. So that we have reason to conclude that the Nerves and their Fibres are the Subject of a spasmodic Contraction.

For seeing the Nerves have the quickest Sense, they first feel the Irritation before the other parts, and at the same time put the Animal Spirits they contain, into a violent Motion, by which means there must needs be a deprav'd Motion and Sense. We take the Nerves here inclusively, with their fibrous, tendinous, membranous Productions, and full of Animal Spirits; all which, after there is an Irritation, are by a continued Motion spasmodically contracted, and so draw together the whole Muscle, which is the proper Instrument of Motion; and if it be contrary to its Inclination, contracted

tracted towards its Original it is properly said to be hurt ; as in the Spasm of the Eye, which is call'd *Strabismus* ; the Muscles that move it are drawn together. In a *Spasmus Cynicus* the muscles of half the Face only are contracted ; but if of both parts, it makes one look as if he were laughing, and is call'd *Risus Sardonius*. If the Lips are distorted, the *Musculus latus* is affected, from which proceed the muscles of the Lips ; and the same may be said of the other parts of the Body. But we may with a pleasant Satisfaction observe this preternatural Motion, if we take notice how the Muscles of Cattle just kill'd, and yet reeking hot, do tremble throughout the Body (like the Hearts of Serpents, Fishes, Eels, &c. when they are pull'd out.) For we see that they are mov'd variously up and down, tho' without Blood, by the Spirits yet remaining, which the Excellent *Etmallerus* confirms in his Elegant Disputation, call'd, the *Small Beginnings of Great Diseases*, §. 15. There may be a Convulsion in every part, where there are Fibres ; and all Pains may be derived from hence.

§. 3. Signs.

WE now pass to the *Signs*, by which we guess at this Disease. In every Distention of the Nerves there is commonly a great Pain, which does strangely decay the Strength, especially if it continue long ; besides, the part affected does so strongly incline to its Original, through the mediation of the Nerves, Muscles and Animal Spirits, and all this without the consent of the Will ; that it is hardly reduc'd to its former Po-

sture, and whilst all the parts subject to the Head, are convuls'd, it happens, beside this Attraction, that the Body either cannot be turn'd at all, or else that it is either so drawn forwards, that the Chin is joyn'd to the Breast, or so distorted backwards that the Head, is forcibly drawn down upon the Shoulder-blades. Sometimes the Head is violently shaken to and fro, the Face growing very red, and full of pain. Sometimes the Eyes, when distorted, shed Tears, and the Patient can scarce open his Mouth. The Back, Cheek-bones, Hands and legs are stiff, and cannot be stretch'd. So that when the Disease is rooted, the Patient is so sadly tortur'd with the Extremity of the pain, that he leaps out of Bed, cries out, and, like a mad man, behaves himself apishly, and dotes, the Spirits roving after this manner out of their Sphere. In the end he discharges what he drinks through his Nostrils, and fancies several sorts of *Idea's*.

§. 4. Cause.

THE Ancients declar'd the immediate Cause of this Distemper to be either a Repletion or Emptiness, contrary to *Helmont's* Opinion, who look'd upon 'em both as old Women's Stories. The Repletion they deriv'd either from the Blood, whence they say a Convulsion comes even in a healthful Body, in case of too much Ease, or excessive Eating and Drinking : or else from the pituitous Humor which, like the Blood, runs into the substance of the Nerves and Muscles, provided the Muscles swell and are dilated, according to their Profundity, Latitude, and Longitude,

rude, and after they are contracted; for then they think a Convulsion or Spasm arises.

But they deduce the immediate Causes from several Things: either from an Aposthume, or the stoppage of some natural Evacuation, and sometimes also from gross Vapors, when the *Spasmus* comes on a sudden, and goes off gently. Thus far for Repletion, now for Inanition.

That the Emptiness or Driness of the Nerve is often a Cause, they endeavour to prove by these Reasons: Because a *Spasmus* is a longer time in contracting, and too much Labor, immoderate Watchings, a Burning Fever, Care, immoderate Sweating, Vomiting, Purging, Loss of too much Blood, immoderate use of Women, Inflammation, Vomiting by Hellebore or other poisonous Things, Torture, a Hectic Fever, Cauteries, or Vesicatories indiscreetly apply'd to some nervous Part, a great Heat in the nervous Parts, or other such like things have preceded. For from these remote or procatartic Causes they say it happens that the Body, and sometimes the Nerves themselves, are dry'd up to that degree, that their proper radical Moisture being spent they are parch'd like Leather before the Fire, and are shrunk together.

§. 5.

Paracelsus refers a *Spasmus* (which he calls *Contractura*) and its Rise, to an Epilepsy, he holds its principal Cause to be the Spirit of Mercury, impregnated with an acetous Salt, making five sorts according to the diversity of its Causes. 1. He says it comes

from some Hurt, Wound, Blow, Braise, Fall, Nerves shrunk, a Wound not well cured. 2. From the Stone and Gravel in the Reins, and Bladder. 3. From the Colick, the sharpness of the yellow and black Choler putting the Members into a Convulsion. 4. From Anger. 5. From Wine. In another place he proves this Distemper comes from a kind of Microcosmical Mercury, by those who meddle much with it. In another he holds that it proceeds from Wind or a *Flatus*, as also from too much Eating and Drinking.

§. 6.

Helmont calling this Distemper a smaller Epilepsy, thinks every Convulsion to come from the vital *Blas* of the Muscles, stirr'd up by the innate *Archæus*, which is occasion'd by some malignant thing, running into the *Archæus* of the Muscles, and there privately designing against Life; and in *cap. 11. de Lithiasi n. 131, 132.* he says there are several sorts of Spasms; as in an *Asthma* he thinks the Membrane that incompasses the Lungs to be affected; in a Pleurisy, the *Pleura*; in the Palpitation and Anxiety of the Heart, the *Mediastinum* or *Diaphragma*; in Vomiting, Hiccoughing, *Cardialgia*, or Heartburn, the Stomach; in the Dropsy, &c. the *Abdomen*, in intermitting Gripes or Colicks, the Intestines; and also that in a *Gonorrhæa*, the *vasa parastata* are contracted by the sharpness of the Seed, and that thereby a *Spasmus* is caus'd. He believes all the contractions of these Parts to be painful, because they affect the *Archæus* and Spirit, with their Sharpness, Crab-

Crabbedness, or degrees of Heat and Cold; for he will have the greatest Heat to proceed from Fire; the next from *Alkali's*, or Corrosives, Sowre, Crabbed, Pontick; and also from salt, sharp, bitter Things and Poysons.

§. 7.

Willis, that English *Galen*, supposes certain heterogeneous and very explosive Particles, to encrease with the Animal Spirits that are in this or that Region of the Body; and shews that the violent and frequent Explosions, caus'd through the mischievous Combination and restless Collision of this Matter and the Spirits, do bring spasmodic Fits. For as often as the nitrosulphureous Particles encrease with the spirituous saline Particles of the Animal Spirits, so often are impetuous Explosions caus'd; which spasmodic Explosions, according to our Author, are not only rais'd in the Muscles; but also in the Membranes, Stomach, Intestines, Mesentery, and other parts void of Blood. The Cramp or *Tetanus* commonly comes, when the Animal Spirits violently jump from one or both Tendons into the *Venter* of the Muscle, from whence not returning as usually, but staying too long between the Flesh, swell it up mightily and contract it; and then if other Spirits neither yield to these Muscles, nor are contracted with them, the stiff part is stretched with intolerable Pain. The Cause of this is said to be, an heterogeneous Matter, which passing into the Muscles through the nervous *Ductus's*, with their juice, and cohering with the Spirits, makes them elastic and stiff, so

that they cannot be kept within the tedious Fibres, but desiring more room to play in, run out into the Flesh, and there stay till their Tumor abate.

§. 8.

Franciscus de le Boe Syllivius imputes the Cause sometimes to an Acrimony, and sometimes to an Acidity in the Humors; and so argues that one while Choler, especially black, as being the sharpest and most acid of all, another while putrefy'd Phlegm, because in this, either the acid, or lixivious Salt lies, is the Cause of this Disease; for through the Acidity and Acrimony of these Humors, the membranous parts of the Brain, *Cerebellum*, the *spinalis Medulla*, the Nerves, and indeed of every Thing else, are so vellicated, and affected, that a violent, copious and lasting Motion of the Animal Spirits to the Fibres of the Muscles, follows upon it; which is what we call a *Spasmus*.

§. 9.

The Cartesians do lovingly agree in the Cause of this Distemper, with the *Ancients*, (which happens but seldom) for they derive the Cause from the Fulness or Emptiness of the Nerves or Marrow; and prove it by the same Instance that the *Ancients* do: That is, as the strings in an Instrument are contracted by too great dryness or heat, even so are the Nerves convuls'd and drawn closer together; and they will have the Cramp to come by a clammy, cold and thick *Flatus*, that swells and distends the parts; and they prove it by this amongst

mongst other Arguments ; because it may be remov'd by moderate Heat, and only by rubbing the Part.

§. 10.

W⁷^E, leaving others to their Opinions, may be allowed to give our own ; which is, That a Convulsion, both General and Particular, comes immediately from the fury and disorder of the Animal Spirits, which is yet somewhat less than in an Epilepsy. Now all Motion comes principally from the Spirits, for 'tis they that are the promoters of local Motion in the Oeconomy of the Body, by the help of the moving Fibres ; so that as often as any part is affected with pain, through the inordinate and violent Vibration of the sensible Fibres, the Spirits are forc'd to that part, by which is caus'd a full and little less than spasmodic Tention of them : for so long as the Spirits have their elastic Motion, so long will remain in Vigor the Tone of the moving Fibres, and from thence an Aptitude as well of presently receiving a sensible Impression of outward Objects, as a continual endeavor to move. So that the local Motion of the containing parts will continue together with a quick distribution of the parts contain'd, and, according as the occasion may be, with an inordinate Commotion, and, sometimes Exclusion of those Parts. For the motive force of those Spirits being stop't, and their darting influence in a manner hindred, the Tone of the Fibres will cease too proportionably, the easie reception of Sensibles will abate, and their motive Endeavor will decay ;

as the famous *Etmullerus* ingeniously argues. And so a *Spasmus* proceeds from the Pipes of the Muscles being obstructed, which makes the Humors to stick there ; and the Spirits being hinder'd from entering in, rush into those Fibres about the Obstruction, and by that Irruption, irregularly twitch the Nerves ; and this Reason they give, why the Spirits in great quantity run into the Muscles, through the open Pores of the Nerves, and distend them so much. The first and principal Cause of a Spasm very often lies in the Member it self, and not in the Brain. Let us now a while consider the Mediate Causes. The Enemy coming arm'd with so many several Weapons, some sharp and some blunt, attacks all the nervous Fibres, being the Outworks in which the Animal Spirits reside, which Spirits running out impetuously, an Irritation of those nervous parts is caus'd ; by which more inward and constant Irritation, the nervous Fibres are twitched and contracted ; the Muscles are shorten'd and swell, together with a Pain and Hardness caus'd only by this violent Influx of the Animal Spirits. For it is the shrinking up of the nervous Fibres, moved with pain, and not Fumes and Vapors that cause convulsive Motions. Now those things that twitch the nervous Parts, and cause Crispations, are all sharp, bilious, sometimes acid, pontic Humors, communicated to the *Genus nervosum* together with the Blood and *Lympha*, by Circulation. Also several strong Purgers taken inwardly, Antimonial Medicines which are as bad as Poyson ; for by means of the pricking of Antimonial Particles, drank in the Infusion of *Crocus Metallorum*, or *vitrum An-*

Antimonii, the Fibres both of the Stomach and also other *Viscera* and Parts, may be drawn together and twitched, which is the Reason that irregular Vomits often forerun Convulsions. For if an Acrimony happen to affect the nervous Part, the Crispation spoken of before begins by degrees, till it arrives at the Brain, and disturbs the Animal Spirits; so that it is plain by what has been said, That a Spasm does not so much, as the Ancients would have it, come from Emptiness, as an Acrimony which follows it; as we may see in an *Hypercatarsis*; as the Excellent *Wedelius* observes in *Ephemer. German. An. 10. obs. 75.* nor do we excuse here any feculent, poysonous, tartarous, acid Humor, whether it be Phlegm, or Serum, or the *Succus pancreaticus*, according to that old Observation: *Acids are hurtful to the Nerves.* For this Reason those that have the Gout are so often vex'd with Spasms, as also Children, who, through eating too much, have either too viscous an Acid or Worms in their Stomach; as also those of riper Years, who drinking too much Rhenish Wine, for the sake of the grateful Gust of its Acidity, are punish'd with a Trembling; so that the Acid, to cause a Convulsion, must be somewhat more fix'd, grosser, and mixt with something moderately viscid; but it must not be a volatil Acid, for by running into the Pores of the Brain, it will rather and sooner produce an Epilepsy, than a Convulsion: Amongst remoter Causes we reckon all things which administer Acrimony enough to irritate the nervous Fibres, either by communicating it to them, or spending the gentle Humors, so as that the rest become sharper and

consequently more hurtful to the Nerves. We have seen this Spasm commonly happen to scorbutic Persons, by reason of the Fluidity of the Salt; as we sadly observ'd in a Councillor's Lady of good Quality, who first vomited a great quantity of acid Phlegm, which was follow'd by a Convulsion of the Hands and Arms, together with very great pains of the Heart. After the Acid was mitigated, all the Symptoms abated by Remedies we shall speak of hereafter, and so the Disease was cur'd.

All sharp Poysons, Wounds, Blows, Bites of venomous or mad Creatures, and prickings of the Nerves, may cause this Disease. A sad Instance of this we knew in a skilful Apothecary, who had a little Splinter of Wood struck into his little Finger, which without doubt was poyson'd (for it was on a Table where he was handling Poyson) which he taking no notice of, the next day it swell'd and grew very painful; upon which Convulsions following, he dy'd: so that if the hostile Particles, or those Spikes stick very close in that tenacious, clammy Texture, as they do easily to the inward nervous and very sensible Coat of the Stomach; by means of that painful continu'd Impression, the Spirits may be violently forc'd; and a Spasm of the Stomach under the *Pylorus*, and so a spasmodic vomiting may be caus'd. Nor do we doubt that all the other parts of the Body, and the *Viscera* themselves, as the Ventricle, Reins, *Folliculus Fellis*, Heart, Intestines, Mesentery, Bladder, Womb, &c. those which have Nerves, the Organs of Sensation, may be irritated and drawn together, and so be taken with a Spasm or convulsive

Crispa-

Crispation ; for where ever there are nervous Fibres, there may be a Spasm. The Skin likewise full of these, is a sort of wonderful Net, knit of the Fibres of the Arteries, Veins, Nerves, and Tendons, variously complicated into one another ; yet so as that it is more nervous than veinous ; furnished with such a stock of nervous and tendinous little Fibres, together with a great number of very small capillar Arteries and Veins interwoven ; so that we make no doubt of the Contraction of the Fibres in the Skin, in shiverings and burning Fits, which is notorious even to every ordinary Physician. We might speak more of the trembling of the Heart, of the Palpitation, and other convulsive Motions, hysteric, hypochondriack, of the trembling of the Limbs, &c. but we forbear ; because the Famous *Willis* has ingeniously and exactly handled them all. Especially seeing the quick Reader may, by making a deduction from what has been already said, easily find out the Cause of other like convulsive Motions, since they only differ in place. I will only add one word concerning Trembling ; that it comes mostly from the Animal Spirits running into the opposite Muscles through the open Valves ; which Spirits either do not flow in with any force, or else violently and in great quantities, and so leave those Valves open, just as the Wind does a Door half open, when it blows gently against it ; or if those *Valvulae* be hurt, so as that there be holes in them, through which the Spirits have a free passage. An idle Life brings a Spasm, as breeding Obstruction, which is the Occasion of it.

S. II. Prognostick.

WE now proceed to the Prognostick of this Distemper. A Spasm which comes by a Wound is very often mortal, as we have known in a Souldier about three years since ; as also not long ago in a Country fellow, who was to be cur'd of a Rupture. The Case is also bad, if the Convulsion be caus'd by Hellebore or other strong Purges, as the great *Hippocrates* also testifies. That Spasm is also the more dangerous that comes from an *Hypercatharsis* and Profusion of Blood, together with a Weakness. And it will be hard to cure if it proceed from a burning and malignant Fever, so that it is better a Fever should come after a Convulsion, than a Convulsion after a Fever ; because a Fever cures a Spasm, by removing the peccant matter ; for he that is troubled with a Convulsion, or Distension of the Nerves, is cur'd if a Fever supervene.

Whoever are took with a *Tetanus* die in four days, but if they pass those well they are out of danger, as may be seen in *Hippocrates* his Aphorisms. If the Patient by being tir'd out with too frequent Tortures, and Convulsions, become like one distracted, so that he be speechless, want Strength, be spent with Sweats, and throw up what he drinks through his Nostrils ; it is mortal. We have observ'd the Distortions of the Lips, Eyebrows, Eyes or Nose, in a continu'd Fever to be often signs of Death. The same Distemper ends in Death when the Matter is carried to the Brain ; and a worse Distemper, as an Epilepsy or Apoplexy supervenes, and if the Strength be spent.

spent. But *Hippocrates* will better unfold these Mysteries to you, to whom we refer you in his Aphorisms.

§. 12. Dietetick Cure.

LET us now expose our own Commodities, and give Our Opinion, as to the Dietetick Cure. 1. Let the Air be temperate and clear, avoiding a North, Cold and Winter one. For *Hippocrates* has long since observ'd, That Cold causes Convulsions, Distensions of the Nerves, Blackness and Blewness and feverish Shiverings; and we also have caution'd it above. 2. Let their Meat be of good Juice, for which purpose Cream of Pisan, perch'd-Eggs, Capons, Hens, Chickens, are good. Let them choose rather roast meat than boyl'd, and let Cephalicks be added to their meat, such as Marjoram, Sage, Time; also Raisins and Almonds are convenient. Let them avoid salt, acid, sharp, briny Meats; nor let them eat too much, so as that it cannot be digested, but turn to an acid, viscid Paste, whence must arise various Inconveniences. Let them also especially avoid all sowre Fruit. Let their Drink be Ale well wrought, brew'd with nerve Simple, such as Roots of Peony, Clove-gilly-flowers, Leaves of Sage, Rosemary, Germander, or a Decoction of Barly, or Mead. Let the Patient forbear hard drinking: for all excessive eating and drinking is principally to be avoided as dangerous. 3. Rest must be enjoyn'd, and immoderate Motion must be forborn; but Frictions of the *Vertebra's* of the Neck, and other parts are allowed. 4. Let them sleep and watch mode-

ately; for else several Alterations in the Humors and Spirits happen. 5. Let their Excrements by stool be as Nature requires, as also all other customary Evacuations; for all Obstructions of the *Viscera*, Mesentery, Womb, Hæmorrhoids are hurtful; and on the other hand, all immoderate Evacuations are to be avoided; such as bleeding at the Nose, Womb, Hæmorrhoids, *Hypercatharses*, excessive Sweating, too much use of Venery, (which disturbs the Spirits and puts them upon irregular Motions) Hunger, Poisons, strong Purges, Medicines of Hellebore, Antimony, &c. contribute much, and after excessive Evacuation, cause a sharpness both in the Blood and Serum; and spoil the *genus nervosum* with spasmodic Contractions. 6. Let the Mind be always chearful; for Perturbations are very dangerous, amongst which Anger is principally the Cause of this Distemper, for Anger sharpens the Bile, and Bile sharpens the Animal Spirits, by which they become irregular, and occasion this Disease, for which reason *Helmont* attributes the deadly effects of Vipers and other venomous Creatures, to the impression that Anger makes in them; yet we do not here undertake to set down our own Sentiments, but rather admire the industry of others in this work: For 'tis no great matter to us, whether the Choler, through Adustion, or the oily Part of the Blood in the Heart, in some measure turn to a Salt which dissolves in the Serum. Fright, Fear, Melancholy, &c. may easily cause this Disease, as disturbing the Animal Spirits; which I lately observ'd in a Person of

of Quality, who with the Grief she was seiz'd with, for the Death of a near Relation, had many violent spasmodick Fits.

§. 13.

THE Ancients thinking, that a Spasm comes chiefly through a Fullness of cold Humors, first loosen the Belly with a Clyster, and then prepare the Humors by gentle Medicines; after that carry them off by Purgers; such as are Diatribith with Rhubarb, Agarrick and its Infusion, *Pilula cochia, fetida, de Sagapeno, de Opopanace, &c.* and of these they usually make divers Compositions and Forms, which would both be tedious and needless to set down here. After this they prescribe things to divert the Humors from the part affected; as Frictions, Ligatures, Blisters, Sternutatories, Gargarisms, Clysters, Apophlegmatisms. Last of all they prescribe things to carry off the Dregs, and strengthen the nervous Parts. Their Corroboratives are, Treacle, *Confectio anacardina*, Mithridate, *Diamuscum dulce*, *Acorus*, *Castor*, *Opopanax*, &c.

Among Externals they reckon divers aromattick Oyls both boyled and destilled; for instance, Oyl of Foxes, of Lilies, of the Philosophers, *de Piperibus*, Fat of Hens, Man's Grease, &c. Whelps cut open alive, and Lungs taken out of Creatures alive, are applyed to the distended Part, while they are hot: And they put the convulse parts into warm Oyl, that they may recover heat. They use Skins of Foxes, Cats, Sheep and Wolves, to cover and keep warm the convulse Parts. They commend Baths, whether they be Artificial or Natural, to wit,

whether they be sulphureous, bituminous, salt or aluminous; in defect of which they use to make one of Sage, Berony, Mallows, Wormwood, Rue, Marjoram, Penny-royal, Chamomil, Roots of white Lily, Seed of Fœnu-greek, Line, and Minerals, Sulphur and Alum. Then they cup and scarify the hind part of the Head and Neck.

§. 14.

THE Paracelsians give Medicines to open the Pores, Heaters, Moistners of the Arteries and Nerves, not by any external quality, but by their specifick Form. And so Paracelsus himself, because with him a Contracture is a Disease in the highest degree, will have the Medicines to be exalted and made spiritual in the same degree. Upon which he gives two Cures; one Internal, another External. The Internal is performed by Purgers and Strengtheners, to cause the Humor of Life to encrease and abound, so as that it may be able to expel the Disease, such as *Aurum potabile*, Essence of Gold, Pearl, Antimony, *Arcanum Sulphuris*, *Aqua vita*, Oyl of Vitriol, Water of Tartar, Quintessence of Coral; Essence of Castor, drawn with Spirit of Wine, is given with good Success in a Decoction of aromattick Herbs.

The External Cure is performed with the things following. Fumes of Mastich and Juniper, Oyl of Turpentine, Bays, Frogs, &c. Gum Galbanum, Ivy, Ammoniack, *Opopanax*, Fat of Foxes, Deer, Badgers, Mouse of the Alps, Goats, Cats, Bears, &c. are good. They commend Oyl of Serpents, and of the Philosophers; because they make

the Body nimble and healthy. *L. 3. de morb. metall.* he commends curing by *Mercury*, and a Bath of Agrimony, Flowers and Roots of Lily *Convall.* Swallows, with a little burnt Egg-shells. After bathing they anoint the Limbs with this or the like Liniment.

Take of Fat of Foxes boyled out one Pound, add of Castor destilled five Ounces, Turpentine destilled with Pepper, *Cantharides* and Bay-berries, seven Ounces and an half. Mix them on a fire.

It is good to anoint with Oyl of *Euphorbium*. *Paracelsus* highly commends the little triangular Bone, which sometimes, though seldom, uses to form the double Lamdoeidal Suture. Somewhere he commends destilled Oyl of Masterwort Root, and in another place he advises the Flowers of Antimony corrected. But who can recount them all?

§. 15.

Helmont and his Followers cure either by asswaging the furious *Archæus* (who they say is peccant in this Disease) with Man's Grease, or by mortifying him with strong Ligatures, or by removing Malignity from the Spirits; all which things Opiates do perform, both taken inwardly and applied outwardly. Here is a Receipt.

Take of the best Spirit of Wine one Ounce, *Opium Thebaicum* one Drachm and an half, Camphore twelve Grains, Castor one Drachm. Mix them for External Application.

§. 16.

Willis, as was said before, calls an Epilepsy a little Convulsion, and observes the same Cure in a manner, which he does in an Epilepsy, that is, he gives Purges, Vomits, divers altering Specificks, Empirical, and Chirurgical, Spirit of Harts-horn, Man's Scull, Soot, Blood, Sal Ammoniack, *Millipedes*, aromatick Herbs destilled, and a thousand such like things; which he has in an excellent piece *de morbis Convulsivis*, out of which an ingenious Physician may pick choice Remedies.

He says likewise, that sometimes Blisters applied to the Neck and behind the Ears are proper; for so abundance of serous and sharp Humors are drawn from the Head. Moreover, Sneezers and Apoplegmatisms do often in this Case afford great Relief. He is for a repetition of bleeding in the Hamorrhoids or Foot. When the Case is violent he loves to apply Plasters and Cataplasms to the Soles of the Feet. He claps Epispasticks to the Calves of the Legs, and to the Thighs.

§. 17.

Sylvius in the Cure of this deplorable Disease, as to External, follows *Paræus*, and immediately applies *Emplastrum diachalcteos*, melted with Oyl and Vinegar; and he gives better reason for what he does, than *Paræus*; for our Author judges, That the Fibres of the Muscles, which are much upon the stretch, are slackened and softened. He also approves of what *Paræus* commends, namely, rowling;

ling: because he presses the over distended Muscles, and gently hinders them from a hurtful distension of the Fibres, and it may be from an incurable Rupture of them. And he does not condemn the following Cataplasim, which *Paræus* applied to *Charles* the Ninth King of France.

Take of Flower of Barley, bitter Vetch each two Ounces, Flowers of Chamomil, Melilot each two Pugils, fresh Butter an Ounce and an half, a Barber's Lather what is sufficient. Mix them.

And if the Pain will not abate with the use of these things, he with *Paræus* flies to Oyl of Turpentine, and Spirit of Wine mixt and warm, or to cutting off a Nerve, Tendon or Membrane. Thus much for Externals, when a Convulsion arises from the pricking of a Nerve, from an Ulcer or *Fistula*, or such like Cause. The Internals in this Case or Sudorificks consisting of a volatil Salt, such as Spirit of Tartar, Treacle-Water without the Acids, and other things, which I shall not here mention. If this Disease arise from Wounds or Blows of the Head, the fragments of the Skull, supposing there be any, must be taken out; for which purpose, if there be no other way to take them out, a Trepan must be used: for when the Skull is opened by it, they may be taken out, and when this is done, Oyl of Turpentine mixt with Spirit of Wine, must be poured into the Wound. But if the Convulsion come from a Burn, then he advises Oyl of Nuts or Rape seed by expression. Among general Remedies (for we have had the special before) he

reckons sulphureous Baths, because they are able to penetrate the deepest to the parts affected; in defect of which he would have a Bath made of Salt of Tartar well calcined with Sulphur, boyled in Spring Water. After bathing he is for having Man's Grease, Fat of Eels, and Oyls applied, because by their means he thinks the Acrimony of the lixivious Salt and acid Spirit, or the Causes of Pain and Convulsions is corrected. He commends Fomentations of heating aromattick Plants, hot Plasters and Cataplasms, which as briefly as may be we have reckoned up.

§. 18.

THe *Cartesians*, because they say, a Cramp arises from a cold Humor or Wind causing Obstructions in the Vessels, are of opinion, That all De-obstruents and Discussers of Wind are good, whether Internal or External, volatil Salts, and other Cephalicks, of which we have abundantly treated in the *Chapter of the Epilepsy*, and therefore are loth to repeat them.

§. 19.

SO others judge of the Cure. This Method pleases *Us*, namely, we think that Purgers are good, if so be a preparation of the Humors have preceeded, which is the only thing, and can only be expected from spirituous Medicines, because this Disease proceeds from a Perturbation and Explosion of the animal Spirits in the Humors, and all other ill Qualities in the Humors should be corrected by sweetning, spirituous things; after which all Functions proceed the better.

If therefore the Patient have opportunity, and his Strength and Disease will admit of purging, to carry off the sharp, bilious, pottick, and tartarous Matter, we may take any of these things following, Rhubarb, Senna, Tamarinds, and other gentle things; but if the fixtness of the Matter require stronger Medicines, we should chiefly advise *Mercurius dulcis* from a Scruple to half a Drachm given in Conserve of Roses, or the following Physick Wine.

Take of Leaves of Betony, Germanander, Ground-pine, Rosemary each half an handful, Flowers of Lily *Convall.* Cowslips, each two Pugils, Roots of Peony, Liquorice each three Drachms, Leaves of Senna two Ounces, yellow Rhubarb three Drachms, Seeds of Fœnil, Coriander, Anise each one Drachm and an half, Cream of crude Tartar two Drachms. Cut them and put them in a Bag for a measure of Wine.

Sometimes to root out the Disease, I have given a Vomit of *emetick Tartar of Mynsicht*, or of *Ludovicus* from two to three Grains; especially if a viscid Acid be lodged in the inner Coat of the Stomach, and if the Disease have been of long continuance, and become in a manner habitual: But if the Strength will not bear it, or any other circumstances dissuade it, I think strong Purgers should be omitted, and that a Clyster may be given instead thereof. These things premised, at the Coming and in the Progress of every spasmodick Contraction, it should be our care, That the irritation of the nervous Fi-

bres, and the two impetuous Afflux of animal Spirits may be laid, which we may obtain by spirituous dulcifiers, such as Spirit of live Ants, with their Eggs hanging to them, Spirit of Harts-horn, Secundine, Man's Blood, Swallows, *mistura cephalica Cnæselii*, *aqua magnanimitatis*, *arcanum cephalicum nostrum*, *essentia cephalica composita*, and several other things, which have almost the same effect. But Medicines, that do the most good, are made of fixt, cephalick Alteratives, and sometimes of volatiles, which are usually given before and after vomiting, and may with good success be used to correct an acid or a sharp; and this is one effect of theirs, that they incide and soak up what is morboous; such for weaker Persons are Crabs Eyes, Coral, Sows, Worms, Ashes of Moles, fixt and lixivious Salts and Alkali's, *Tartarus vitriolatus*; for stronger filings of Steel; for rich and tender People, Essence of Mars made with juice of sweet Apples. Vitriol of Mars, *spiritus Vitrioli striatus cum urina humana volatilizatus*, &c. are every whit as good as these. In a word, all manner of antispasmodicks do the business; under which we comprehend *Sulphur antimonii auratum*, that is, precipitated from the dross of the *regulus* of Antimony with Spirit of Sal Ammoniac, *Glauber's Cinnabar* of Antimony, called his *Panacea*, *specificum cephalicum Joh. Michaelis*, *cinnabaris solaris Sebastiani Scheseri*, our Antispasmodick Powder, which follows.

Take of native Cinnabar one Drachm, Magistery of Luna half a Drachm, Man's Skull, Powder of Amber each one Drachm and an

an half, Ashes of Swallows and Moles, red Coral, Pearl each two Scruples, Sugar of Pearl three Drachms. Mix them. Make an antispasmodick Powder.

I have done wonders with this, and found it twice as strong as the Augustan antispasmodick Powder. Among Liquids these excel; *Liquor cornu cervi succinatus*, *Balsamus nervinus Schefferi*, *Spiritus antiepilepticus noster*, &c. A Spasm cannot otherwise be cured than by dissolving the Humors and Spirits by insensible Transpiration, or unless such plenty of Spirits be sent to the Muscle, that at length the Valves, being violently pulled back may recover their natural State. But if the Spasm arise from a scorbutick Taint, we use to mix Antiscorbuticks with Antispasmodicks; for instance, our Antispasmodick Essence, or let it be this or the like distilled Water which follows,

Take of *Diascordium* one Ounce and an half, Flowers of Line tree, Leaves of Germander each three handfuls, wild Rue one handful, shavings of Elks-horn half an Ounce, decoction of Sassa Root, juice of Brook-lime each two Pounds. Add of our spasmodick Powder six Drachms. Mix and destil them in glass Vessels. Add of the Tincture of Peony, half an Ounce. Mix them.

If the Patient's Complexion be not too bilious, a most Excellent Water may be distilled of Tansey, if a great deal of that Herb be put to a little Water, and distilled according to Art; this Water specifically cures the Convulsion, so do

Oyl and Spirit of Saffron and Saffron in Substance, Oyl of Lavender, Juniper and Amber, and all things that are good in soporose Diseases, especially in a Palsy, except sharp things, are good here. In a trembling this following will be Excellent.

Take of Spirit of Sage two Drachms, Essence of Castor one Drachm. Mix them. The Dose thirty Drops.

But if this Disease proceed from the Womb, or if the Stomach be convulsed after eating poisonous Meats, that is, Mushrooms and such things, Vomits are proper. If the vomiting come of it self, Medicines made of Castor and Cinnamon must be prescribed, and at length safety must be sought from Opiates. In all Contractions of the Nerves we use *Laudanum cydoniatum* in Hoffmannus his *Clavis pharmaceutica Scroderiana*, so that after a moderate Dose of Anodyne has given rest, Strength returns to Body and Mind; all sharp things are sweetened, &c. Yet some quarrelsome, ignorant Physicians blame these Medicines, and had rather let their Patient die than yield to sound Reason and Experience, and so save his Life; but *Ignoti nulla cupido*. For *Opium* checks the impetuosity of the Spirits, as its known effects in our Bodies, Somnolence and Indolence do testify; and when the Tone of the sensible Fibres grows flaccid, they are not so easily moved, though the Object be stronger, nor is the Impression on the first Sensory sufficient to cause Pain or convulsive Tension. Where ever therefore Crispations and spasmodick Contractions are,

the foresaid Opiates are proper, such as *laudanum opiatum*, *theriaca celestis*, *unctura anodyna Wedelii*, &c, because they more or less stay the Motion of the Animal Spirits, and correct an Acid: for we consider the Acid, though but little in quantity, which pricks, gnaws, and painfully irritates the nervous and fibrous Parts, whence sometimes several Symptoms follow, all which Opiates appease. I have sometimes seen a Convulsion come from a preposterous cutting for a Rupture, or from other Wounds; so that often Patients die like People strangled; for the Muscles of the Jaws are convulse on both sides, and the Teeth set, so that though they be miserably hungry and thirsty, they can swallow nothing, while the Neck continues stiff, and their Pulse equal and strong, till the Pulse intermits and grows swifter, and Death puts an end to the story. I observed such a case only through Grief, and taking of a strong Purge in a subject predisposed. Yet I have known cases wherein I have given Medicines with success, one of which is this following; namely, *Liquor cornu cervi succinatus*, *terebinthinatus*, Oyl of Lavender, Spike, &c. Externally I have used divers hot Cataplasms, vulnerary Balsams, and that of *Sylvius*, Oyl of Turpentine mixt with Wine; by which Remedies the Spirits were appeased, and the Patient saved. In a *Spasmus cynicus*, Oyl of Turpentine diluted with *Aqua Vitæ* is effectual Inwardly and Outwardly. A Cramp in the Calves of the Legs may easily be cured by Oyl of Bays, Lavender, or Turpentine heated at the fire, tying them with hot swathing bands afterwards. If a Convulsion come from the bite of any vene-

mous Creature, the Wound must be dilated, and a Blister must be applied to the grieved Part; then for some days Treacle or Mithridate dissolved in *Aqua Vitæ* must be applied to the Wound. If it proceed from pricking a Nerve, then the Wound must be enlarged and Oyl of Turpentine dropt into it. But in a desperate case the Nerve must be quite cut off. The famous *Othorachenus* saw a Witch cure a continual Convulsion by tying a flaxen thread about the Part: but I believe this came from a supernatural Cause; as you may see in *Tract. de morb. princip. p. m. 167*. But upon better grounds I advise, as *Sylvius* does, sulphureous Baths, either Natural or Artificial, which very much dull any spasmodick Acid or Sharp by their oily Particles. I have experienced them in Princes, who were troubled with this Disease. You have had the Materials of Artificial Baths before. I can upon my own Experience testify, That Oyl of Beetles, found in Horse-dung, is excellent to anoint withal. I think we should not neglect any aromack Oyls, such as Oyl of Turpentine, Spike and Amber, all which assuage Convulsions, especially if they be joyned with volatil Salts. As for Fats of Eels, Man, Duck and Goose, in as much as they rather obstruct than open the Pores of the Skin, I think they should be omitted, and I far prefer before them spirituous things mixt with oily ones, to wit, our topical, convulsive Spirit, which follows, and may be added to the Internal Cure.

Take of Spirit of Ants, Worms, Beetles, Sows, &c. which are likewise good externally.

As for chirurgical Means, we must use Venesection with Caution, and unless there be a *Plethora*, I think it were best to omit it. But lest any thing necessary should be omitted, Cupping may supply it, either dry or scarified, and the Glasses must be set near to the convulse Part. I reject Blisters, Issues, *Dropaces* and Sinapisms, and instead thereof use paregorick and nervine Medecines; of which we have said enough. Frictions are very good in this Case, because they pull back the Valves, especially if they be performed with the following, or some such Liniment.

Take of Oyl of Earthworms one Ounce, Nutmegs by expression, Majoran, Cloves each half a Scruple, *Venice Treacle* two Drachms, Saffron one Scruple. Mix them

on a good fire. Anoint the Spine and Neck.

In a windy Spasm this following is best of all.

Take of Treacle one Drachm, Spirit of Juniper two Drachms. Mix them. Or,

Take of Goose grease fresh two Ounces, Oyl of Cloves six Drops, Cinnamon three Drops. Mix them.

In a trembling, for Outward Application;

Take of *Aqua ad articulos* two Ounces and an half, Spirit of Worms one Ounce and an half, Ants six Drachms, Essence of Castor three Drachms. Mix them.

CHAP.

C H A P. XIII.

Of the Incubus, or Night-Mare.

§. I.

AN *Incubus* (*ab incumbendo* from *lying upon*, ἐφιάλτης ἀπὸ τοῦ ἐφιάλλεσθαι, from *leaping upon*; some call it a *Nocturnal Asthma*, ἐκβολή, or *Invasion*; *Piso* calls it a *Nocturnal Suffocation or Suppression*; the English term it *the Night Mare*) is a Disease, wherein a man thinks himself smothered by a great weight lying upon him in his Sleep (therefore *Sylvius lib. 2. Prax. cap. 25. §. 27.* calls it a kind of *Dream*) with a great difficulty of speaking and breathing. The common people think this Disease is caused by some Devil or Spirit leaping upon a man, and so they have made the *Fauni* and *Satyri* Authors of this Disease; concerning which *Caspar Scottus lib. 1. Phys. curios. c. 21* is worth ones reading. *St. Augustine lib. 15. de civitate Dei* makes mention of them. And so *Pliny lib. 25. c. 4.* calls this Disease *Iudibria Faunorum*: But this opinion is refuted by *Willis c. 6.*

de Incubo, as false and ridiculous. So likewise *Aëtius* from *Possidonius l. 6. 12.* writes, That an *Incubus* is not a Devil, but rather a forerunner of the falling Sickness, Phrensy or Apoplexy. We shall therefore pass by these Fictions of the Devil, and discourse of that *Incubus* which proceeds from natural Causes preternaturally disposed. As I am writing these things, there comes into my Mind, a rare Case very proper to illustrate the Definition I have given, of a certain Man, who every night while he is asleep, finds a sensible sucking of his Paps, just as if a Child were sucking a Woman's Breast, and which was most admirable to me, his Nipples swelled upon it, which one shall not ordinarily meet with in the masculine Sex; and whenever he feels this sucking he cannot wake. Now it is as clear as the Sun, from the definition laid down, that it is a sort of *Incubus*, since breathing is hindered and a weight felt lying upon him; of which we shall give a
Rea-

Reason when we come to the Causes.

Definition.

AN Incubus therefore, if a man would be exact, is an extreme diminution of Animal Motion in parts serving for Speech and Respiration, especially of those Nerves they call Phrenick and Recurrent, depending upon the stoppage of the Spirits influx through them, with a false imagination of a heavy weight lying like a Ghost upon a Man's Breast. It comes most usually in ones sleep; yet there is a rare instance of one that came upon a Professor of Divinity, while he was awake, in *Smetius Miscellan. lib. 10.* and another of *Masfarias in Rhodius, cent. 1. obs. 54.* It comes generally when the Stomach is full of hard Meats, and when one lies on his back. In persons predisposed to it, when they awake their motive Faculty returns, a Pain, Anxiety and Palpitation of the Heart remaining, and oftentimes also a quick and violent Vibration of the Diaphragm.

§. 2. *Part affected.*

THE Ancients think, That here sometimes the parts of the Brain, sometimes of the Breast, are affected, because they hold, That all Sense and Motion proceed from the Brain, as from the Seat of the Animal Spirits, and the Beginning of the Nerves. And *Willis* observing this, although he will have the *Pracordia* truly to be affected; yet he proves by many Arguments, That the Seat of an Incubus is in the *Cerebellum*, where

the first Spring of Animal Spirits is, especially because by the Animal Spirits being tied or suppressed in the *Cerebellum*, a failure of them is caused as to the exercise of the vital Function. *Helmont* in this, as in all other soporous Diseases, blames the *Pracordia*. Some Practitioners make the Brain and its hind passages, which tend to the spinal Marrow, the primary subject of this Disease. But we blame the *Cerebellum* with its passages, in which the Animal Spirits run up and down, and here especially the Nerves arising from thence, called Phrenick and Recurrent, which govern the Animal Spirits in the Breast, and serve for Respiration. For in an Incubus the Brain is not affected alone, but the mischief lies rather in the Muscles and Nerves, that serve for Respiration. *Sylvius* therefore makes no scruple to rank this Disease among *Asthma's*, and *Platerus prax. l. 1. c. 4.* and *Willis* in the place forequoted acknowledge as much. They verily persuade themselves that the *Pracordia* are affected, in as much as when the Patient is newly awaked, he finds a heaviness in his Breast, and when that is gone, a palpitation and quivering of the Diaphragm, and disorderly Motions succeed. But without all doubt, the Heart, the Lungs, and their Vessels, the Muscles of the Breast, the Diaphragm, the pneumonick Vessels with the nervous Fibres and Glands, and the Organs pertaining to Speech, are affected in this Disease. But if one would but rightly distinguish between the Subject of the Disease and of the Cause, most of the difficulty about this matter might be removed: about which we shall speak more

more fully and accurately, when we come to the Causes.

§. 3. *Diagnostick.*

THOUGH the foresaid Definition contain the greatest share of the pathognomonick Signs, yet the Diagnostick deserves a more Particular Consideration. For according to that of Cicero's, *The foundation of good Counsel is to know the Commonwealth*, so the beginning of Cure is the knowledge of the Disease. In this Disease therefore we feel a weight about the Heart, and imagine it lies upon us. Now this weight and immobility of the Breast and the whole Body proceeds only from stopping of the Influx of the Animal Spirits into the Muscles of the Breast and Heart. For the Blood in the Heart, by reason of the influx of the Animal Spirits being denied, and thereupon the act of Respiration being hindred, and the Motion of the Diaphragm, being, as it were, suspended, cannot move nor be ventilated, but must of necessity stagnate: Then it coagulates, and when it is coagulated, anxieties of Heart, tremblings and other Grievances must needs arise, and though the Patients would call aloud for help, they cannot do it; for sometimes their Speech is abated, sometimes quite lost, because the recurrent Nerves are hurt. A torpid Sense in sleep also attends it, and an imagination of smothering, and as it were of a *Catalepsis* coming upon one. Their Phancy also is disturbed, so that they have an Opinion sometimes that the Devil, some Witch or Giant has or would have carnally to do with them. Because when the passages of the

Spirits to the Heart are stopt, they are enraged, return to the Brain, and there form ill *Idea's*, such as they had formerly conceived of the Devil, Witches, Giants or *Venus*. And this disturbance of Imagination often befalls Witches and Wizards, who are often affected with Illusions of Phancy, like these Dreams, and imagine several things, which they verily think betided them; for instance, that they were in a field, and danced with their King, the Devil, and all his Train. which are nothing more than mere Whimsies, as may appear from hence, That Witches close shut up and asleep in their Chamber, and oftentimes lying by their Husbands, have told in the morning how they were dancing in the fields, when they were never out of their Chamber. But since this is out of our province, we will return to our proper Business. Patients, when they are awake, complain much of a great and heavy weight, and tell of several other things, yet so as that they know their Breath and Speech were stopt, and the Motion of their Body some way or other hindred. Also when they have done sleeping, they yet feel a palpitation and trembling of the Heart, because when the Heart and Diaphragm have been hindred from their Motion, and sleep is over, afterwards the Spirits coming in greater plenty, and being rendred over active, exceed in the performance of their Office; which Motion of Trepidation and Vibration the Ingenious *Willis* well expresses by a bended Rod's returning to its self by its elastick Motion. In some epileptick persons, where there is also a scorbutick discrasy of Blood, and prone to Coagulation, there arise livid

livid and violet coloured Spots. When Men have had several Fits, they complain of a heaviness and swimming in their Head, and of several other little things, which I have not leisure now to enumerate.

§. 4. Cause.

NOW we have done with the Diagnostick, the next thing is the consideration of the Causes, by benefit whereof we may successfully undertake the Cure of sick persons. The Ancients think, That the Cause of this Disease is either cold Phlegm, or melancholick Blood about the *Præcordia* and Veins of the Breast; and they earnestly contend, That gross vapors are elevated to the Brain from the foresaid Humors, and that the Passages of the Breath are stop't by them. For, say they, whenever many crude vapors arise from surfeiting or bad Meat, not well digested in the Stomach, or from any of the first Ways, and the *Hypochondria*, then the Breast and Diaphragm are oppress'd, upon which a Man can scarce breathe, but fears he shall be smothered; which vapors (so they love to talk) are sent to the Brain; and then they persuade themselves the Mind it self is disturbed, and clouded with sad *Spectra*.

§. 5.

THE *Paracelsists* and others of their gang do here, as in other soporous Diseases, blame a narcotick Sulphur, and narcotick Vapors, that obstruct the Phrenick and Recurrent Nerves, and fix the Animal Spirits.

§. 6.

HELMONT rejects all gross Vapors of the ignorant Academics, and proves, That rather the Action of the regiment of the dumvirate, namely some impediment in the Stomach, by its vital regiment alone, without Vapors and Fumes, to disturb the Brain and Nerves, vitiates the first Conceptions, as it interrupts the comforts of the Spleen.

§. 7.

THE Famous *Willis* makes the immediate, proximate Cause of this Disease to be the hindrance of the influx of the Animal Spirits into the *Præcordia*; and the mediate Cause to be some incongruous Matter, instilled with the nervous Juice into the *Cerebellum*, which creates a stupefaction of the Spirits in their first Source, and immediately compels them to cease a little from the performance of their Functions. And he derives that weight on the Breast from the Blood's stagnating a while in the Heart, and he solves the inability of Motion, by the irradiation of the Animal Spirits being hindred.

§. 8.

THE diligent *Sylbius* makes the primary Cause to be Vapors, causing a slight stupefaction, and occasioning a small *Delirium*. And thus he will have the Cause of an *Incubus* wholly to proceed from a corporeal Fault, and by no means from the Soul.

§. 9.

§. 9.

Cartes agrees with the rest of the reformed Philosophers, and owns, That the influx of the Animal Spirits into the Nerves and Muscles allotted to the Organs of Respiration, is the immediate Cause of this Disease. For in sleep, if the Animal Spirits flow not into the Muscles, the Soul judges in such a Case according to Custom, as if a weight lay upon one, and hindred the free Motion of the Diaphragm. Choking comes, when the Spirits flow not freely into the Muscles of the Jaws; for then they fall together, and so cause strangling. Spirits also fail when the Circulation of the Blood is hindred; and when the Spirits do not flow into the Muscles of the breast, its Motion must necessarily cease, as Sails flag for want of Wind. And they think, that this Disease comes, when some gross Vapor has filled the *Abdomen*, which cannot get out for its thickness, but when it is heated distends the whole *Abdomen*, which presses so upon the Diaphragm, that it cannot play downwards, especially in sleep, where the influx of Animal Spirits is small. And also when the *Abdomen* does not play, little Air gets into the Lungs, so the Blood is not cooled as it used to be, but is carried hot to the left Ventricle of the Heart; here-upon the Ebullition is greater, and more gushes into the Arteries, and so more than usual is carried to the Head, whereby the Spirits are moved disorderly in the Brain, and represent confused Imaginations to the Soul.

§. 10.

Now you shall have ~~My~~ Opinion. And I think, the immediate Cause of this Disease is, A stoppage of the Influx of the Animal Spirits; not total, for then it would be an Apoplexy; but an impediment of the Influx, lying not so much in the original as in the insertion of the Phrenick and Recurrent Nerves, that tend to the Diaphragm, whence a dangerous Stagnation of the Blood in the *Præcordia* proceeds. For unless it moves it grows acid. This is the Cause of an excessive Acid, that known *Coagulum* of the Blood, which is often the sole Author of this Disease. There is an ataxy in the Spirits; whose activity is checkt by crude, acid, chill, chylous parts; communicated by a-bundance of Crude, sowre Chyle to the Blood and spirituous Liquor. Wherefore this Disease happens usually after eating Meats that are improper, difficult of fermentation, sowre, salt, and full of fixt Particles; especially if the Blood be as full of heterogeneous saline fixt Particles that obstruct the foresaid Nerves. Hence Children are oftner troubled with this Disease than grown Persons; because they suck greedily, and are more voracious; in as much as any Aliment, by reason of a virious Acid residing in the Stomach, is easily corrupted, and crude Matter is offered to the Blood. And this Disease in grown persons also arises generally from Error in Diet; thus, if through bad and hard Food the body abound with gross Humors; horrid Dreams, Goblins, Witches, Harpy's, gasty Faces and Monsters present

present themselves; sometimes one is at Law with his Adversary, sometimes in Combat, Houses are on fire, a Man thinks he is tumbling in the Dirt, and that he has a weight upon him, or that he is hanging in some high and dangerous place. Persons predisposed to this Disease are subject to it in some certain posture of lying, that is, on their Back: the reason is this, because in such a posture the pneumatick Nerves and Muscles are sometimes straitned and compressed, and then the Animal Spirits cannot flow into the Breast and Diaphragm, upon which this Disease must of necessity ensue: Remotely also a viscid and coagulated Blood, which clogs and obstructs the Lungs and Nerves, and creates trouble to the Spirits, may contribute to it.

§. II. Cause.

THE nature of the *Incubus* and of the Patient determine the Prognostick. An *Incubus* is seldom mortal. Children and such as use a gross Diet, are more subject to it than grown persons and such as use a thin one. If other Diseases of the Head have preceded, and if the Fit return often, then it threatens either an Apoplexy, Convulsion or Epilepsy, and sometimes Madness, hypochondriack Melancholy, or sudden Death. For several have been carried off by this Disease, while they were asleep in manner of a suffocative Catarrh. If it grow worse, and if it take a Man in the night, either waking or asleep, if after he is awake a Convulsion or Swooning follow, or if cold sweats and trembling of the Heart come, it is a bad sign.

§. 12. Dietetick Cure.

IN the dietetick Cure the Air has the first place. And in this Disease a hot and clear one must be chosen; but a cold one, which stops and straitens all the Pores must be avoided.

The Meat must be of laudable Nourishment. For if such be eaten, if the Stomach do its office aright, and if it send the Juice of the pure Aliment to make Blood, pure Spirits of life are bred, which then being carried to the Brain by the Conduits of the Carotid Arteries, yield matter for the Animal Spirits, which going thence by the Nerves into the whole Body, govern Sense and Motion, Imagination and Understanding. If therefore a gross and seculent Blood come from bad Food; if fermentation be frustrated in hard Meat, impure Spirits arise from the Heart into the Brain, which overthrow the state both of the Mind and Body. In this Disease especially forbear immoderate eating.

Let the Drink be small Neccarine or Moselle Wine, or Hirstein or Michelbach Wine; or Beer well boyled, wrought and settled.

Non acidum sapiat cerevisia, sit bene clara,

Ex granis sit cocta bonis, satis ac veterata.

Forbear drinking of Water; for a thick and troubled Water is very prejudicial to Health, it breeds Phlegm, and sometimes causes an *Incubus*. Therefore the Fens and Marshes of Holland must needs be guilty of a great deal of Sickness, where the Water look troubled, and

and are of an ingrateful Taste and Smell, or frozen all Winter, and boyling hot all Summer, and always standing still. Nor is Rain-Water, kept in Cisterns, much wholsomer, it being infamous for breeding of Worms. And I make no question, but abundance of Inconveniences arise from drinking of Water. For I have often met with this Disease among Country People, and I ascribe it much to drinking of Water. For according to this Verse;

*Potus aquæ sumptus comedenti incommoda præstat,
Hinc friget stomachus, crudus & inde cibus.*

The most spirituous things do most refresh the Body; and so drinking of Wine is most wholsom, according to the following Verse.

*Vina bibant homines, animantia cetera fontes,
Absit ab humano pectore potus aqua.*

For Wine, because it easily turns to the nature of Blood, the Aliment being carried into every part of the Body, breeds Spirits that are clear, and not thick, restores them, when dull and languid, strengthens the Heart, cheers the Mind, and quickens the Understanding and Senses.

Let Motion and Rest be moderate, otherwise they may occasion this Disease, since by too much Motion the Spirits are dissipated, the solid parts are consumed, and preposterous, crude Chyle distributed to the Blood. For it forces the Chyle, before it be well dige-

sted, out of the Stomach into the Guts, and out of them into the lacteal Veins and Glands of the Mesentery, and in this manner it breeds Crudities, from which innumerable Diseases, especially this of ours, proceed.

Moderate Sleeping and Watching are commendable. Sleeping in the day, especially after Meat, and lying on ones back is hurtful. Watching if it exceed bounds, dissipates the Spirits and breeds Crudities.

The Excrements of the Belly, the Menstrua, and other ordinary Evacuations, must correspond to Art or Nature, otherwise they might greatly incommode our Health.

The Mind must be kept quiet; on the contrary Cares must be avoided, and Grief and Fear, by which the Animal Spirits are diverted from performing their Functions, and the Motion, especially of the Præcordia and Heart fails; as any one, who has seen ought in Physick, may observe.

§. 13. Pharmaceutick Cure.

Let us now see, what the old Practitioners will say, who perform the Cure of this Disease, after their usual manner, with Preparers; such as Syrup, French Lavender, Mint, Oxymel simple, Water of Wormwood, Marjoram, Bugloss, Fumitory, a Decoction of Roots of Fenil, Parsly, Rosemary, Spleenwort, Maiden-hair, Flowers of Violet, Bark of Caper Root, Liquorice, &c. They use these last, when they find the Patient abounds with Phlegm; and Syrups of Fumitory, Apples, &c. when Melancholy abounds. Then they use Evacu-

tors, which are *Pilula cochia, de agarico, mastichina, de lapide Lazuli, hiera picra Galeni, cassia fistula, diacatholicon, diasenna*. They admit of bleeding, if the Body be plethorick, or if the *Menses* or *Hæmorrhoids* be retained contrary to Custom; and the thicker they find the Blood, the more they take away: They use to bleed a Vein under the Tongue or in the Forehead. Afterwards they fly to Revellents, such as sharp Clysters, Cupping-Glasses set to the Thighs, opening the *Hæmorrhoids*, rubbing and combing the Head, gentle Errhines, Gargarisms, Apophlegmatisms, Sternutatories, &c. Things that hinder Vapors from ascending, are, according to them, *Diarrhodon Abbatis, diamargariton frigidum*. Sugar of Roses, Coral, &c. Then they conclude the Cure with Strengtheners, to wit, Treacle, Mithridate, *Diamoschu dulce, Dianthos*, Conserve of Rosemary-Flowers, Bugloss, Seeds and Roots of Peony, Nutmeg. They magnify anointing of the Head, Breast and Stomach with Oyl of Chamomil, Dill, and Wine hot. They advise also the applying of a *Dropax*, made of five parts Pitch, and one Oyl of Spike or Mastich. They commend Bags made of Flowers of Bugloss, Violets, Roses, Leaves of Baum, &c. which may be besprinkled with white Wine and Baum-Water, moderately warm. A Cap may be made of leaves of Betony, Marjoram, Flowers of Rosemary, Red Roses, Cloves, Nutmeg, Cypress-Root, &c.

§. 14.

Petraccius and his Followers use to cure an Apoplexy, a Palsy and this Disease all in a manner the same way; and to that purpose they give several Purges, to wit, Extract of black Hellebore, *Panchymagogum Crollii*, &c. At length, when the peccant Matter of the *Incubus* is cast out, they fly to spirituous, strengthening things; they especially extol *Aurum potable*, Oyl of Amber, Pepper and Juniper, inwardly and outwardly; and there are several other things which are sufficiently recounted before in soporous Diseases.

§. 15.

Helmont, because he thinks the Cause of this Disease lies in the Stomach, advises to vomiting, that the Crudities of the Stomach, arising from Surfeiting or any other Cause, may be cast off. The Patient should be presently awakened in the Paroxysm, then the *Incubus* ceases, and the *Archæus* has his desire.

§. 16.

Allis commends Cephalicks, Nervines, and other Medicines, such as Amber, Coral, Pearl, Peony Root; also Electuaries, destilled Waters, Tinctures, Elixirs, &c. sufficiently enumerated in the former Chapters. He would have Children, that are at any time troubled with this Disease, wear Coral and Peony Roots and Seeds about their Neck, or upon the pit of their Stomach.

§. 17.

Sylvius, that Successful Practitioner, takes the Cure of the *Incubus* to consist, 1. In the Correction of the Bile, that has a narcotick Faculty in it. 2. In the Correction of thick Phlegm, and the austere Humor, whether it be the pancreatick Juice, or any other that produces noxious Exhalations. 3. In the Discussion of austere bilious Humors, that arise in the time of the Fit. 4. In the Interruption of sleep. Things that correct the narcotick Virtue of the Bile, are acid, but spirituous, such as Spirit of Nitre, as well pure as sweet, Medicines of Castor, Vinegar, &c. For inciding thick Phlegm, correcting any austere Humors, and discussing austere bilious Humors, he commends all volatil Salts. For the Interruption of Sleep, he advises talking of the by-standers with the Patient, if at any time one find by Signs and Commotions, that a Fit is coming.

§. 18.

The Cartesian Indications are satisfied by volatil things, joyned with other spirituous things, aromatics, and several hard things, which may incide and extenuate, and so remove the Obstruction of the Pores of the Diaphragm, which we shall not here insist upon.

§. 19.

We shall now give you succinctly our own Method of Cure. In the time of our Practice we have had only three ephorick Persons to cure. While

the Fit lasts therefore, we order the Patient to be awaked; then we give him things, to remove Obstructions in the passages, that is, in the phrenick Nerves; things to excite and recreate the Animal Spirits, which burning volatil Spirits do above all other things, and volatil saline Spirits joyned with volatil oily Salts, which sometimes do wonders, while they rouse our drowsy Spirits, and recal them from going some whither else; which volatil things maintain all moderate Fermentation of the Blood, and create fresh Spirits. Here is a process:

Take of rectified Spirit of Wine two Pounds, the purest Salt of Tartar four Ounces. Draw off a Spirit by Destillation; to which, when it is duly exalted, add as much aromattick Oyl, to wit, of Cinnamon, Mace, Fenil, Amber, &c. as it will soak up. Then add a little *Sal Ammoniack*.
Or,

Take of rectified Spirit of Wine tartarizate six Ounces, Oyl of Mace, Amber each three Drachms. Let them stand mixt for a while, till the Spirits have soaked up the Oyls. Then add of Spirit of *Sal Ammoniack* two Ounces. Destil them in a long Bolt head in Sand and keep them for use. This may serve for a Receipt;

Take of Cinnamon Water one Ounce and an half, *Aqua apoplectica* one Ounce, *Spiritus noster oleosus* half a Drachm, Syrup of Cinnamon half an Ounce. Mix them. Take a spoonful at a time. Or,

Take

Take of Conserve of Peony Flowers, Rosemary Flowers each one Drachm, Volatil Salt of Harts-horn six Grains, Magistery of Amber three Grains. Mix them. Make a Bolus. Take it Morning and Evening.

A Decoction of the Woods, with some Spirit of Sal Ammoniack dropt into it, is excellent good. Cinnamon Water, adding a little Amber, does the business in this Disease.

For removing the stagnation of the Blood, arising from an acid coagulum in it, these foresaid Medicines are excellent, in as much as they correct an Acid, and quickly dissolve the Blood. And this intention is best satisfied by Spirit of Sal Ammoniack, that pure Volatil alkali, if about one Scruple of it be given in some proper Vehicle: Spirit of Harts-horn, Soot, *spiritus oleosus noster*, & *spiritus salis Ammoniaci succinatus* are good. *Sperma ceti* likewise is an excellent Remedy in this case. And there are several other things that are good to dissolve the coagulum of the Blood, which we mentioned in the Chapter of the Apoplexy.

I never used Blood-letting, unless in a great Oppression of the Heart. But if I feared Choaking or an Apoplexy, I used it, and only then. If an incubus come from Obstruction of the *Menses*, then I advise breathing of a Vein; Cupping Glasses, or Leeches may serve instead thereof.

Out of the Fit I recommend Vomits of an Infusion of Antimony, or *Tartarum emeticum Myrsichti*, or *Ludovicianum*, or our emetick Wine, as things whose effects answered my end, and that evacuate vicious, crude Humors lodged in the Stomach. But if for some reason or other we

cannot give those things; then we may give the following Purge.

Take of Mass. pil. aloephang. half a Drachm, Magistery of Amber three Grains, Oyl of Rosemary Flowers two Grains. Mix them. Make them into fifteen Pills.

After these let the Patient take the following mixture.

Take of *spiritus salis Ammoniaci succinatus*, Spirit of Harts-horn each half a Drachm, *spiritus oleosus noster* one Scruple, Water of Sage, Rosemary each one Ounce. Mix them for three Doses.

An Emulsion may be made of Seeds of Peony and *Nigella* for the time of sleep; to which prepared Emerald one Drachm may be added.

If the Disease come through some fault in the Stomach, or error in Diet, I prescribe this following Stomach Powder of *Guldencllee*.

Take of Seeds of Coriander prepared six Drachms, Peony one Drachm and an half, Cinnamon, Mace, Cloves each one Scruple, red Coral prepared one Drachm, distilled Oyl of Caraway eleven Grains, of Nutmeg seven Grains, *rotula manus christi perlata* two Ounces and an half. Mix them. Make a Powder. Or,

Take of *pulvis stomachalis bezoardicus* three Drachms, Coriander prepared one Drachm, *secula peonia* half a drachm, Emerald prepared one Scruple. Mix them.

Towards Evening let the Patient take a little Wine, or *aqua vita Matthioli*,

thioli, or Spirit of Wine. Mineral and Bath Waters, drunk according to the Rules of Physick, have often cured People. Nor should we neglect Errhines, Apophlegmatisms, Frictions, Scarifications, Leeches, &c. I use, Morning and Evening going to bed, to give, and that with good success, *Sennertus* his Electuary called *pleres archonticum*, with *confectio alkermes* and Amber.

Outward Applications, such as the fat of a Wolf or Frogs anointed on the Breast, are of no small use; also other Oyl, Aromatick and Spirituous things are effectual, outwardly applied. It was revealed to us as a Secret, That a Swallow's head worn about ones Neck, keeps off this Disease. A spirituous Plaster

applied to the Navil will be very proper in this case, as also destilled Oyls of Lavander, Caraway, &c. are; or a bag of common Salt, steeped Wheat and Chamomil Flowers may be applied. The Belly may be anointed with Oyl of Nutmeg by expression, or with the following liniment.

Take of *unguentum alabastrinum* two Ounces, Treacle five Scruples, fixt Salt sixteen Grains, the best Saffron half a Scruple, Oyl of Caraway, Balsam of Peru each eight Grains. Mix them.

For the rich you may add Musk and Amber. For Women, instead of sweet scented things, you may take half a Scruple of Oyl of Castor.

C H A P. XIV.

Of Catarrhs.

§. I.

AT length we are happily arrived at our Port, that is, the last Disease of the Head, namely a Catarrh. By a Catarrh the Ancients understood a Destillation and Defluxion of Humors from the Head and Brain into the lower Parts of the Body. For Galen's ridiculous Opinion is, That the Head is as it were a roof placed over a hot House, that receives the Vapors, and all the fuliginous Excrements, which are gradually carried from the Parts below, where they are, like Clouds in the Air, condensed by the coldness of the Brain, and at length being dissolved by the heat of the Spirits, showre down like rain on the Parts below. Wherefore the Greeks call this Disease Κατάρροϋς, that is, a *Destillation or Defluxion*. It is defined to be, *an Evacuation of the Lympha or vitious Serum, in any Part of the Body, but especially in the Head, which by remaining there grows sowre, cragulates and causes Pain, either with or without Swelling.*

Division.

IT is commonly held, That there are four sorts of Catarrhs. 1. When the Excrements of the Brain run into the Mouth and other Parts, it is called by the general name, and by way of excellence, *a Catarrh*, 2. When sharp, serous Matter runs to the Nose, it is called Κόρυζα, *gravedo*, or *running at the Nose*. 3. If it fall upon the Throat and *aspera arteria*, it is called βράγχος, *raucedo*, or *hoarseness*. 4. But if the evacuated *lympha* fall on the Breast, then it is called *rheuma*, or a *rheum*, according to these Verses :

Si fluat ad pectus, dicatur rheuma catarrhus,

Ad fauces, branchos, ad nares esto coryza.

If a vitious, polluted Serum fall into the Eyes, it causes an *Ophthalmia*; if into the Ears, tingling and thickness of hearing; if into the Jaws, the Tooth-ach; if it fall into the Neck Shoulders, Arms, or other Parts, it causes Pains, and sometimes Swelling in them; if upon the Origination of the Nerves,

Trembling and the Apoplexy; if upon the Lungs, an *asthma*, Peripneumony, Cough and Consumption; if upon the Stomach, a Corruption of the Ferment, Crudity, Nauseousness, and Loss of Appetite. And it is able to raise a thousand other Diseases. We speak all these things according to vulgar Acceptation; but if we would be exact, in propriety of speaking, the evasated *Serum* comes not always from the Head; but as it is diffused through all Parts of the Body, it may break out of any Part, as out of its place of residence.

§. 2. Part affected.

BY the unanimous consent of all Physicians, the Part affected is the Brain, called the fountain of Phlegm by venerable Antiquity, and consequently of Catarrhs. They prove, That the Brain is the Seat of this Disease, from hence, for that there is an Head-ach and Vertigo, the *os cribriforme* is stoppt, and Mens sleep is disturbed with troublesome Dreams. And more particularly they blame the Ventricles of the Brain, as some of the Moderns accuse the *glandula pinealis*, other the *pituitaria*. Some of these take the Glands discovered by *Malpighius*, *Wharton*, and others, for the Part affected; a few of them take the Glands of the *plexus choroides*, which prepare the vitious, acido-saline Humor, for the Part affected. We in this case believe, that not only the Brain, but chiefly all Parts that abound with Glands and lymphatick Vessels, both in the Brain and all over the Body, are over-flowed; and inasmuch as they are too full of *serum*, we take them for the Part affected, which when through any

Cause they are burst or distended, the Brain and all other Parts are on float, and the Pores are obstructed. Concerning this see *Helmont de Delir. Catarrh.* and the noble *Waldschmidius*, our sworn friend, in his *Disputatio Astrolg. Med.* who there discourses rationally and ingeniously. For we see all day long, how in a *coryza* the *lymph*a is voided out of the tubulated insertions of the mammillary Processes by the *os cribrosum*, through a pretty broad passage on either side, beginning a little above the *infundibulum*, ending in the tubulated Corpuscles of the said Processes, and tending to the spongy Bodies of the Nose.

§. 3. Diagnostick.

A Catarrh (that we may come to the Diagnostick) betrayes it self by abundant Sneezing, Heaviness of the Head, Deadness and Dullness of the Senses, and sometimes by the Head-ach and Spitting more than usual. In a *coryza* either the holes in the *os ethmoides* are stoppt; or a thin, sometimes a thick *lymph*a runs at the Nose like Water. In a *branchus* there is hoarseness of Voice, roughness in the Throat, and oftentimes a Cough. When the *lymph*a therefore is superabundant in its Vessels, then it is voided partly by the Nose, as was said, partly by the Palate, sometimes (but seldom) by the Ears, sometimes also by the Eyes. Oftentimes likewise a domestick *serum* overflows (not coming from the Head) in the Lungs, in which there is a Cough or an *Asthma*. And since no Part in the whole Body of Man is without lymphatick Vessels, so likewise no Part can be free from the reception of this limpid Water. For
while

while these lymphatick Vessels are overmuch distended, the Water either grows thick or sharp, and discharges it self on this or the other Part; or by little and little it makes its way by its Acrimony and Saltiness to the external Parts of the Body under it. Then this aculeated *lymph* makes breaches, hence a Pain and Swelling arise either in the Side, Loins, Arms, Shoulders, Eyes, Teeth, Kidneys, Hips, Legs or several Joints, that is, by reason of Solution of Continuity in those Parts. From the concomitant Humor also a Catarrh is called, either hot or cold: for when a thick, or viscid Humor, having little or no fixt Salt, is precipitated, we say it is a cold Catarrh, in which only a dull Pain is felt; but if a Salt be mixt with it, which by its rigidness and sharpness, as it clings to the nervous *mæanders* of the Tubes, produces a rending or pricking Pain, we call it a hot Catarrh. For unless the pointed Particles of one Body did not agree with the Pores of another, but aimed always at the same end, no such Pain could arise. For the Figurists (or mechanical Philosophers) do well explain the uniformity of Motion by the *simile* of Teeth and serrated Points in clocks; for instance, as the Teeth of one wheel do exactly fill the interstice of the Teeth in another Wheel, that is, as the Points of one Body correspond to the Pores of another; so these things seriously considered, as certain a knowledge about natural Actions is derived from these schematisms, the true Symboles of Actions, as we can certainly know by the hand of a Dial, annexed to the Wheels, what hour of the day it is; not because the Wheels are of Gold or Steel, that

is (if it be applied to the Particles of Bodies) these vitious Particles do not act, because they are salt, acid, &c. much less because they are hot or cold; but because they are this or that way figured, in such or such order, of such a quantity, &c. For the stress of the business lies in this. We may therefore in a safe sense call a Catarrh hot, inasmuch as the Blood or *serum* are sharp, or are made so by the Air, or inasmuch as the rest of the balsamick Particles are sharp, acuminated rigid & like to pointed Pyramids. Whence it cannot otherwise be but these Particles, being so figured, must cause a Solution of Continuity and Pain. One may therefore know a hot, (that is, a sharp) Catarrh by a sense of heat, itching of the Parts, frequent sneezing, sharp, bitter or salt taste, redness of Eyes and Face, &c. And one may know a cold (that is, a styptick) by the thickness and clamminess or heaviness of the *lymph*, and by a sense of coldness. These are the chief Signs of the vitious predominant Humor, which are comprehended in these following Verses of *Franc. du Porta Lib. 2. de sig. morborum.*

— *Quum pituita movet malefana catarrhum;*

Frigus inest capiti, facies fit pallida, murmur

Vox ciet, & sapor est, urinaque crudior exit,

Mens stupet & sensus, motus torpore tenetur.

The evasation of a vitious *serum* upon a Part may presently be known by a prudent Physician; because the Part immediately shows it by Pain and Inflammation, sometimes

by swelling, and there is a Fever. For a Catarrh seldom afflicts a Man, when there is no Fever with it, which consists in a disturbed mixture of the Blood, or in its excessive thickness, caused by an over salt *serum*: for a foreign Salt communicated to the Blood, makes a different Motion, and thereby easily disturbs the mixture, and causes a Fever.

§. 4. Cause.

THis was the Diagnosticsk, now we will walk out into the pleasant field of Causes. The **Ancients** explain the proximate cause of this Disease, by a destillation or defluxion of Humors from the Head to the Parts below, by way of *simile*, that is, of Vapors elevated from the lower Parts to the Head, and there condensed into Water and dissolved; for instance, If you consider the destillation of Water, or boiling of it in a Pot, Vapors are elevated to the Cover, and there condensed into drops; even so in Man they call the Stomach the Pot, and the Head its Cover. If therefore the Stomach be heated by the Liver, after their way of arguing, Vapors must be sent to the Head. They say also, That a cold and moist intemperature of Brain promotes it much: for the Brain, so disposed, is not able rightly to digest the aliment, which is sent to it, and so many superfluities, and a great stock of excrements are gathered; these Humors and Vapors being condensed, at length are thrust to the Parts below, where they cause sometimes a Swelling, sometimes Pain. Wherefore the Season of the year, an improper way of living, surfeiting, excessive repletion,

immoderate sleep, sudden cooling of the Head after sweating in a Bath or Hot-house, heat of the Sun, Moon-beams falling upon the Head, South and North Winds, an unusual Stink, unseasonable Watching, and night Studies, are remote Causes.

§. 5.

THe **Paracelsists** prove, That this Disease is saline and tartareous. A tartareous Spirit, according to them, ascends in a dry or liquid steam, which at length is a little coagulated in the Brain: for there are coagulating, mineral Fumes in the Brain, which *Paracelsus tract. 2. lib. 2. de morb. metall. cap. 1. de fum. metall.* says are drawn out of the Air by the Nostrils, adding, That as by the heat of the Sun and Stars, and subterranean fires, many Vapors are raised to the middle region of the Air, where by virtue of cold, or (as others will have it) by a saline virtue, they are condensed into clouds, which being dissolved into Water and Rain, fall down both by their weight and natural inclination to Water the earth: So in the microcosm there is the same rise of Meteors, Rain, Snow, Hail, and a perpetual Circulation of the lower and upper Heaven, and a mutual communication of fruits. And here they seem to agree with the Ancients, in that they believe Vapors arise from the lower Parts to the Brain; and are there condensed, as in the head of an alembick; by which sublimation either a salt or sharp Humor falls upon the Parts below.

And since all sorts of Salts are contained in Tartar, that is, Common, Alum, Vitriol, Gemm, Ammoniac, Petre, Alkali, of Vinegar, of Ner-

ble, &c. various differences of tartareous Diseases, and therefore of destillations arise from thence. Also according to them Tinctures of Arsenical Spirits are mixt with these Salts, from whence come destructive defluxions with excessive pain and redness. In another place *Paracelsus de modo pharmac. lib. 2. tr. 1.* says, That a Catarrh, Rheum, and *Branchus* are excremental sicknesses of mucous dung.

§. 6.

The industrious *Helmont* holds, That Catarrhs come, when a strange Air, Scent, Ferment, or an exotick Seed is received into the Spirit upon Motion; then the tainted influent Spirit is excluded by the *Archæus* from the communion of Life, and is sent to Parts furthest off. The *Blas* also of the Moon inspires the Operations of her Vicissitudes upon us, showing themselves most upon a weak Brain and the Membranes. Hence come tedious presages of alterations of Weather aforehand. This is called the night torture, under which is comprehended whatever goes by the name of Defluxions and Catarrhs. He will therefore have Catarrhs to arise, not from one fountain alone, to wit, Man's head (whence the Schools imagine all Catarrhs do fall) but from the Idiopathy, or proper Indisposition of every Part, caused by topical Ferments. He rejects likewise the arguments of the Vaporists, and demonstrates to the Eye in *tract. de Catarrhi deliram.* that it is impossible, that these Vapors should rise from the Stomach to the Head. See page 268 of the foresaid Treatise. Nor will he have the *mucus* arise

from the famed Orifice of the Stomach, but that it is an useless excrement bred by an erring guardian. He confesses, That in the Gout there is a salt excrementitious Liquor, yet so, as that *Vulcan* is the source, cement and fewel of it; and not an ascent of Vapors from the Stomach to the Brain, nor several Humors, nor a fictitious Destillation of Phlegm mixt with bile. Whatever therefore the Schools talk of Vapors arising from the Stomach for the matter of the Catarrh, he thinks it is but old Wives Tales. All that comes from the head is *mucus* and mere excrement, but not carried out of the Stomach thither. This *mucus* when the guardian of the Brain is in good order, is white, thick, and viscid; but when its Powers are disaffected, the *mucus* is watry, sharp, salt, harsh, yellow, clammy, &c. and runs the nearest way out of his Basin or Tunnel. For in a *coryza* the Water that runs out at first, is not mere *mucus*, but a salt Water, whereby nature endeavours to wash away, whatever rests upon the spongy bone of the Brain, as a foreign Enemy. As I said, whatever it is that falls down upon the Throat from the Brain, not one drop of it enters the Lungs, but if it should, would endanger strangling. For if but one drop of Water, as one is swallowing fall upon the *larynx* unawares, and so almost choak the drinker, what would not such a quantity of *mucus* do, which in a short space of time now and then would fill Basins? This noble Author admits indeed of catarrhal Diseases; but he denies the causes, means, ways and end of a Catarrh, as the Schools have explained them. So he will have a Consumption not to be a Defluxion

on upon the Lungs, but to arise from some inward fault of the Lungs themselves.

§. 7.

Mullis thinks, That in this Disease the *serum* separates from the Blood, and an inundation comes upon the Parts, because a sharp and thin *serum* opens the mouths of the lymphatick Vessels and Glands, upon the *trachea*, or other Muscles or Parts; so that too many serosities are discharged on those Parts, whence he holds, That divers troublesome pains, inflammations, and sharpness of Humors may arise; adding, That afterwards, the *serum* thickning by Coction, sticks to the sides of the *trachea*, and straitens the passages of inspiration. He thinks also, That this ichorous Matter runs out of the lymphæducts or blood Vessels into the Vesicles of the Lungs, and causes shortness of breath, and sometimes a Consumption.

§. 8.

Apius thinks the proximate cause of this Disease, to be an excessive abundance of watry, serous Humor, offending in acrimony, saltness and acidity, falling often from the Head upon the Breast, causing divers Catarrhs, and sometimes a Consumption.

§. 9.

The Cartesians supposing that a subtil or æthereal matter, according to the different access and recess of the Sun to and from us, causes various Alterations and Symptoms, do admit of Destillations, ei-

ther upon the Throat, the *aspera arteria*, Palat or Breast, but they explain the manner and ways of Destillation differently from the Ancients. They therefore blame chiefly the salt and sharp Particles of the Blood falling upon any Parts of the Body, holding, That the matter of the Catarrh is not supplied from the Brain, but is immediately carried out of the Blood by the Arteries to those Parts: for they say, That by a catarrhal, that is, a serous and pituitous Matter, latent in the blood, the Pores of the Arteries are day by day enlarged and dilated, out of which then the Blood is poured into the tubes: for our Blood consists of Parts of innumerable Figures and Magnitudes, which according to their Magnitude, Figures and Situation are moved one among another, and variously joyned; whereupon they form divers Pores, and admit of the subtil matter in greater or less quantity, according to the diversity of the Pores. And they endeavour to prove, That the Blood is affected in Catarrhs, by the continual and slow Fever, which usually accompanies them. For they say, when the mixture of the Blood is disturbed, That several sharp Particles are poured into the glandulous Parts, and there offend either in thickness, or acrimony, or a thousand other ways, and irritate the Membranes. And they confirm this by frequent sneezing, a troublesome Cough and Hoarseness.

§. 10.

Thus far, what others think of the cause: this is our own Opinion, That abundance of viscid *serum* abounding in the Body, is a valated,

vasated, from which evasation of a sharp, salt or acid *serum* upon membranous Parts, we derive Pains and Inflammations. For I put it beyond all doubt, That catarrhal Diseases primarily proceed from some fault in the *Lympha*.

We every day see how in cold Weather the *lymph*a is encreased, inasmuch, that is, as the Pores of the Skin are stoppt, and so transpiration is hindered, which must of necessity encrease the *serum*. And all confess, That Catarrhs and Rheumatisms are produced by a sudden stoppage of transpiration, as experience does evince. But if the *serum* have any fixt Salt, either communicated by the Air, or bred in the blood and *serum*, a pricking Pain arises, and the obstruction is encreased, because that stubborn Salt contracts all membranous Parts. And if there be an evasation of *serum* and a subsequent stagnation about the *præcordia*, then there arises Difficulty of breathing, a Fever, Heaviness of Heart, and present Suffocation, frequent companions of this Disease. I am verily perswaded, that Catarrhs never come from the Head alone, but that there may be a serous evasation in all Parts: For there are manifest ways, that is, lymphatick Vessels, which are diffused all over the Body, and why are these Vessels torn only in the Head, and not in the Lungs, Neck, Liver, Muscles, *Larynx*? &c. For what use are these Glands, that usually prepare *serum* in several other Parts? Yea, I have discovered by a microscope, That the whole Skin is glandulous, and why should we, who have always our Heads moist with Phlegm, that is, full of coagulated *serum*, yet be very seldom troubled with Catarrhs? Why do we not say, That

a Dropsie comes from the Head? We doubt not therefore any longer, but that catarrhal Diseases do arise primarily, from some fault in the *lymph*a through all Parts. For if the *lymph*a be evasated out of its Glands and Ducts, it over-spreads the Throat and *aspera arteria*, and by its excessive Acrimony and Acidity ex-coriates the foresaid Parts, whence Pains, Inflammations and Hoarseness arise, with which they that are taken, complain of a fiery, burning Pain in their Throat. And whereas we said before, that the *lymph*a is encreased by a cold Air, we see it plainly in a *coryza*, which is common almost to all Men; for a cold Air always precedes, which as it passes, hinders insensible transpiration, whereupon the *serum* is made more sharp and acid, and is bred more plentifully in the foresaid places. This *lymph*a, where it finds a passage endeavours to get out all at once, especially if these Vessels be over-filled and distended with drink, as they are usually in great drinkers. If this lymphatick evasation come in the Throat, hoarseness arises, which I have observed to last a year and longer, and sometimes to go away without a Consumption. If an evasation of *serum* be made in the Stomach, then the Ferment of the Stomach is spoiled, all the food a Man takes corrupts, then a rough and thick *lymph*a, unfit to digest meat, hinders and spoils fermentation. And frequently, while these lymphatick Vessels are loaden with too much *serum*, it disburdens it self into other places, turns sowre for several days, and by little and little makes its way by its thinness and acrimony into the external Parts of the Body under it, whence divers Ache

ches and Pains flow. For there is no part of the Body, but has its lymphæducts, so that the Lungs are not without them; and therefore no Part is free from evafation of *serum*. The ways, by which the catarrhal Humor flows, are principally the lymphatick Vessels, and less principally the sanguiferous Vessels. Here, by the way, we would have it observed, That we do not derive a suffocative Catarrh from *serum*, only evafated in the Lungs, much less, as the Schools would have it, from the Brains showring down upon the Throat, as *Helmont, tract. de Catarrh delirament*. but we rather think it comes from the blood's gushing out of the ascending and descending Branch of the *vena cava* into the heart, and thence into the Lungs, and its being hindred a little in its Motion; then it begins to stagnate, through an excessive Acid, either bred in the Humors, or brought thither from the lower Parts, especially from an Acid and Austere pancreatick Juice, mixt both with the Blood and *serum*; whence proceeds danger of choaking and difficulty of breathing, which is of necessity attended with froth, after a frequent but vain reciprocation of the Air; as I learned by experience in a Dog, into which, after a drachm of Spirit of Sulphur *per campanam*, diluted with a sufficient quantity of Water, had been infused at the crural Vein, froth appeared after the coagulation of the Blood. From whence it follows, That, if an Acid coagulate the Blood, a suffocative Catarrh must arise in the Lungs, and it is a pulmonary Apoplexy. For we judge, That as an Apoplexy is caused by the hindrance and abolition of the Blood's Motion in the

Brain, so a suffocative Catarrh proceeds from the same Motion being stop't a little in the Lungs and *præcordia*, which Motion of the Blood is hindred by the abundance of Blood, or by its thickness and viscosity, or by obstruction of the Vessels, or by a coagulating Acid; and thence flow Anxieties and Oppression of Heart, Shortness of Breath, and sometimes Abolition, and at length sudden Death. All which things appeared in the opening of one that died of this Disease, who for a year and more was troubled sometimes with a suffocative Catarrh, sometimes with an Apoplexy; but at last he died of a suffocative Catarrh. When we opened his Corps, we found the *abdomen* and the Breast above the *os sternum* so beset with fat, that it was four inches thick. There was no Blood to be found any where but about the Heart and Lungs, and it stagnated there; because the Passages of the Blood were stop't by the Vessels being obstructed with fat. In this pious Man, who died, I would have you observe this by the way, That when he could not breathe, he found relief by beating and thumping his Breast; the reason whereof is this, That the Motion of the Blood was restored by this Commotion. And *I. G. Greifsel. in Miscell. curios. an. 1. obs. 74.* shews, That there are viscid and glutinous, callous Bodies in all that dye of a suffocative Catarrh, either in the Brain or Heart, and not seldom in both. Undoubtedly in this Disease both the Nerves that pass to the Lungs, and the Pores of the Lungs are obstructed, and hence such a Disease ensues, and a stagnation of Blood; in other sorts of Catarrhs it is certain, that generally

rally the *serum* is evacuated, and such effects follow. These things premised, one may easily give a reason of Quinsies, Hoarseness, Running at the Nose, Tooth-ach, and other catarrhal Diseases.

§. II. Prognostick.

THIS was the explication of the cause, now we will subjoin the Prognostick, in which a Physician had need to be curious. If the Humor which we now call *serum* or *lympa*, destil from the Head upon the Nostrils, the sink of the Brain, the Disease is slight, and over in a few days. If it be evacuated in the throat, it is worse; and if upon the Lungs, it is worst of all; for from thence oftentimes an exulceration arises, whence comes a Consumption of the Body. All mild and short Catarrhs, if they be negligently treated, so as to take root, are dangerous. Those that are subject to a Catarrh, are not altogether safe from danger; because they are obnoxious to several other Diseases: for abundance of *serum* threatens an Apoplexy, Palsie, Pleurisie, Blindness, Consumption, Tooth-ach, Quinsie, Deafness, Stoppage in the Bladder or Kidneys, Pain and Weakness of Stomach, *Sciatica*, Gout, &c. Looseness and the Colick. A Catarrh with a continual Head-ach is more difficult to cure, than one without it; for in the former case more abundance of *serum* is denoted. A suffocative Catarrh always threatens imminent danger of death, and kills a Man quickly, just as if he were taken with an Apoplexy. The Autumnal Season is most obnoxious to Catarrhs, because of frequent alterations in Weather. A Catarrh is cal-

led great, which freezes a noble Place. Old Men are easily troubled with Destillations, as *Hippocrates aph. 31. §. 3.* testifies, therefore they are more difficultly cured in such.

§. 12. Dietetick cure.

WE have done one task, now we must go to another, namely the dietetick cure, which consists, as I have often said, in the six Non-natural things, as Physicians call them. *Air* comes in the forefront, inasmuch as it contains in it self subtil and saline Particles: for the wisest Physicians, and the illustrious *Boyle* tell us, There is a Salt in Air; these saline Particles therefore being peccant in their Motion and Figure, and insinuating themselves into the Mass of Blood and *lympa*, cause our Disease. The Air then must be hot and dry, on the contrary a windy, rainy, northern and southern Air must by all means be avoided. For every one knows what mischief excessive cold does, since thereby transpiration, which is so necessary, is hindered, the *serum* coagulated and stopt in its Motion, and the Glands of the Skin bound up. And this cold does most harm, when it comes suddenly after great heat, and when it is moist withal. They experience all these things, who live near the Sea or Fens. Let him that is subject to Catarrhs, avoid the Rays of the Sun and Moon.

Meat is next, whose efficacy is great in breeding Humors, and influencing Mens health. Some Meats especially are apt to breed Phlegm, according to *Horace lib. serm. 2. sat. 2.*

*Dulcia se in bilem vertent, Stoma-
choque tumultum
Lenta feret pituita; vides, ut palli-
dus omnis
Cœnâ defurgat dubiâ.*

If the Meat be good and laudable, good Blood is bred thereof, which illustrates the Mind and Senses, renders the Affections sedate and quiet, and composes all the Motions of the Mind according to the dictates of reason. But when from bad Food vitious Humors and turbid Spirits, there proceeds a fuliginous Vapor (according to the Ancients) fuming up into the Brain, the Mind contracts much harm, the Senses grow stupid, and many serosities are gathered. The Meat therefore in this Disease must be easy of Concoction, dry, and such as breeds good juice; for instance, potched Eggs, Hen, Capon, Chicken, Partridge, Veal, roasted rather than boyled. It must also be moderate in quantity, the Supper must be more sparing than Dinner; and after Supper some sweet Meats of Quinces will be proper. On the contrary, forbear all Meats that are gross, viscid, difficult of Concoction, cold and moist, such as Onions, Garlick and Cheese, inasmuch as these, and such as these, encrease the stock of Humors. As for *drink*, it must be moderate, for it is of great Moment in making Blood and Spirits, which, if it be thin, pure and defecate, breeds Blood and Spirits like it self; but if it be thick and crude, it leaves Tokens of its nature in the Body, as drunkards daily testify. Drinking of Well-Water is destructive to Man and Beast, and must be avoided, because it breeds abundance of bad serum.

Sleep must in this case be moderate, not on the day, nor long. The Head must be covered, lest it be hurt by external cold, which is an Enemy to the head, and to other nervous Parts.

Motion must neither offend in excess nor in defect, in this case especially slothful idleness must be avoided, which fills the lymphatick Vessels with abundance of crude Humors.

The Belly and Bladder must be free.

As to the *Passions of the Mind*, Men must give themselves to Mirth and pleasant Speculations and Meditations. Fear, sadness and despair, inasmuch as they retard the Motion of the Blood and Spirits, and so gather serosities, must be avoided. Cold Baths must be avoided, for they hinder transpiration, and fill the Body with too much serum. Let us leave swimming to fishes, for it is known from Sreno's most accurate observation, that those Ducts, by which transudation is made, are far larger in fishes than in us Men; so that what Water will not hinder in them, it does much hinder in us. Curtius tell us, how much unseasonable swimming endangered Alexander of Macedon: For when he had committed his reeking hot Body to the chill Waters of Cydnus, his Limbs grew stiff, he pale, and the vital Flame had almost forsook him.

§. 13. Pharmaceutick Cure.

Hitherto we have been but skirmishing, now we are come to close fight, that is, to noble Medicines. And first, of such as were
in

in use with the Ancients. And they give a Clyster to such as are troubled with a Catarrh, then they make the Humors obedient to Nature. When they have done this, they endeavour to force the peccant Humors out of the Body, by Purgatives and Evacuators. And they are, Electuary or Juice of Roses, *diaprunum*, *diaphœnicum*, *pilula aurea*, *massichina*, *cochia*, *de agarico*, &c. *agaricus trochiscatus*, *cassia*, *rhubarb*, *polypody*, *electuarium Indum* & *diacatholicon*. If strength permit, or if there be any impending danger of a Quinsie, violent Fever or Suffocation, and the Patient plethorick, they immediately order Bleeding in the Arm. They will have violent Purgers forborn, lest they might irritate the burthenfom Matter to fluxion. At length they try to derive the Catarrh with head-Purgers, Erhines, Apophlegmatisms, Sternutatories; actual and potential Cauteries, applied to the fore-part of the Head, and for the same end they raise Blisters. Then they order things to stop the flux of Humors; especially if there be danger of Suffocation from the vehemence of the Catarrh. Things that stop a Catarrh, are these following, *diacodium simplex* & *compositum*, *spec. diapapaveris*, *diatragacanthum frigidum* & *calidum* (to wit, if the Catarrh be cold or hot, for they earnestly contend, That contraries must be cured with contraries) *pilula de cynoglossa*, *toboch de canibus*, *de papavere*, Bole Armenick, Juice of Liquorish, Violets, Pills of dried Roses, Seed of white Poppy, and Gum Juniper. They will have Spike kept in the Mouth in the Night-time; they make a fumigation of *nigella*, and other aromatick things. They shave the

Head, and apply Oyntment of Roses, and a Plaster of *terra Lemnia*, Roses, Plantain and Bole Armenick. They add such Medicines as may strengthen the Brain, and consume the remainders; these are, *diamoschu dulce*, *diambra*, *species aromatica rosata*, Michridate, Conserve of Sage, Rosemary, Betony, Cypress roots, *stœchas*, *gallia moschata*, *lignaloës*, *ladanum*, &c. For this end they use to make a Pomander of Cloves, *gallia moschata*, Nutmeg, *styrax*, Calamint, Cubebs, Cinnamon, &c. They make a Cap of leaves of Bay, wild Marjoram, Seeds of *nigella*, *stœchas Arabica*, Frankincense, Mastich, Cinnamon, Mace, Nutmeg, Cloves and red Roses. They order bags also of Salt, Millet seed, Bran, and other things, to be applied to the Head. They rub the Head with a rough hot Cloth. Then they extol this following Plaster, applied to the coronal Suture;

Take of Seed of *nigella* roasted one Ounce, Mustard roasted, Frankincense each five Drachms, Mastich three Drachms, Pigeons dung, Barley Flower each one Ounce. With *Oxymel* of Squills make a Plaster according to Art.

I pass by the rest on purpose.

§. 14.

NOW we will hear what the Paracelsists say. And they, to dissolve coagulated Tartar, to coagulate the dissolved, and to reduce them both, use the things following, especially to purge fluxions of the Head, such as Glew, Elder, Stavesacre, Saffron, Hermadaftils, Pellitory of Spain, *Euphorbium* and sal Gemm.

Gemm. *Paracelsus* also, for Melancholy Defluxions, and a hardened Blood, commends Polypody, Hellebore, Spurge, Agarick, which he advises must be carefully prepared and corrected. Moreover, in their Opinion, things that dry up Catarrhs, are Essence of Baum, Moonwort, Clary, lesser Bugloss with the red Flower, which even worn in ones Hat, is said to be moistened with the Humors, that it attracts out of the Head. Some for purging, highly extol *tartarum vitriolatum* and *elixir proprietatis*; and for strengthening, Oyl of Amber, which for stopping a Catarrh is reckoned by them very efficacious; also if Powder of Amber be put in a Bag, and heated in Spirit of Malmsey Wine, and besprinkled with a few drops of Oyl of Amber, and applied to the Crown of the Head, it is a thing of great efficacy; or if the Nose and Temples be anointed with Oyl or Balsam of Amber. Some, to stop a Catarrh, fly to Narcoticks and *Laudanum*. They say, that three drops of Oyl of Vitriol given in Mint Water, and repeated several times, do by a specifick and singular Virtue waste and dissipate Catarrhs. Spirit of Vitriol, of Tartar, Oyl of Sulphur, Turpentine and *terra sigillata* are said to perform the said effect; Water of Mother of Thyme drawn chymically with Spirit of Wine, is with them a principal Remedy; Oyl of Marjoram, Rosemary, Anise, Fenil, *oleum Luna*, Liquors of Sapphire, Emerald, Moss, are cried up by them for their secret Virtue in this Disease.

§. 15.

Helmont cures Catarrhs with divers soporiferous things, as there shall be occasion; and if a foreign acidity with some viscidty come into the Stomach, he doubts not, but Vomits will carry it off. He contemns not Sternutatories in this Disease, but orders the Roots of Sow-bread be cut into long slips, and anointed with Oyl of sweet Almonds, and put into the Nostrils. *Grembs* also, *Helmont's* own disciple, makes an effectual Sternutatory of *marum* in this case. The herb must be dried, so as it may retain its greenness, under a leaden Platter, and a green amicable Powder may be made of it.

§. 16.

Ullis, that the *serum* and other recrements of the Blood, which often cause this Disease, may some way be evacuated, advises the use of Diaphoreticks, Diureticks and gentle Purgers, with this admonition, That when other Remedies are interposed, Blood-letting be not neglected, especially in a suffocative Catarrh; and after it, he uses often to give some gentle Purge, that is, Syrup of Peach-flowers, or of Roses solutive, or *pilula succini, cochia*, &c. Among Diureticks and Sudorificks, he commends Wood-lice, Volatil Salt of Amber, Soot, &c. and other Salts and testaceous Powders, made into Pills with Turpentine. Then he will have the Mouths of the Vessels and Glands, which gape too wide, moderately bound, that they may not void their Serosities over freely on the external Parts; and then he would

would have those Parts smoothed, that they may not be hurt by the effusion of a sharp serum, or by meeting with the external Cold. In the first case Conserve of red Roses, *olibanum*, Mastich, *loboch de pinis*, Syrup of Jujubes and of dried Roses are good: in the latter, he says, that Syrup of Liquorice, Maiden-hair, Marsh-mallows, and other sweet pectoral things is good. He commends chirurgical Remedies, namely Blisters, Cauteries, Frictions, Issues. Leeches and other things, as there shall be occasion.

§. 17.

IN Syllbius his Opinion, if a Cararrh fall upon a noble Part, it must be averted and allayed by all means; therefore salt and subacid Humors must first be corrected, and then carried off with Hydragogues. For correcting the Acrimony of the serum and Humors, he magnifies diuretick and sudorifick Medicines, such as Decoctions of Roots of *China*, *sarsaparilla*, Burdock, *cantrayera*, Wood of *Guajacum*, *sassafras*, Box, Oak, Juniper, &c. For amending salt Humors he commends *pilule de cynoglossa* & *de styrace*, about five Grains, Gum tragacanth, Mastich, *olibanum*, *styrax*, roots of Liquorice, four greater cold Seeds, Quince, sweet Almonds, Barly, *Opium*, Liquorice Juice inspissated, all fat Earths, Bole Armenick, *terra Lemnia*, *sigillata*, Coral, Pearl, Ashes of Crabs, &c. He will have it, that, to diminish the Humors, Issues may be made with good success. Erhines also evacuate the peccant Humor by the Nose, and likewise avert it from the Throat.

§. 18.

ACCORDING to the Cartesian *hypathesis* the Indications are taken from the Blood or serum, that is sometimes too thick and viscid, sometimes too thin and sharp. In the beginning therefore gentle Purgers are proper, namely, *pilule ae succino*, and other Aloeticks. Vesicatories also, Issues and Scarifications to discharge the Serosities; satisfy these Indications. If a too sharp Matter irritate the membranaceous Fibres too much, Opiates may very well be used, such as *pilule de cynoglossa*, and other things already mentioned, which we shall here forbear to repeat. Besides, oily and fat things are proper, inasmuch as by their softness they involve the Points of a heterogeneous Salt in the Blood; and earthy and gross things, such as Crabs-eyes, *terra sigillata*, Bole, inasmuch as these, and such things as these, do file and turn the pointed Angles of Salts. Gums and glutinous things are proper, which by their gross Particles guard the Habit of the Body against the Acrimony of the Salt. They say, that a Decoction of the Woods is good, inasmuch as it corrects and mends the viscid and sharp Particles of the Blood.

§. 19.

WE proceed thus; we immediately incise the viscid Phlegm, which abounds, and evacuate it. But here observe, that you first of all correct the Acrimony or Acidity of the Blood and *lymphæ*. To evacuate it, Hydragogues and Aloeticks are proper, such as *pilule Francofurtenses*,
P which

Which many call catarrhal Pills. Also a cephalick extract prepared in the manner following.

Take of *Coloquintida* fix Drachms, Trochisces of Agarick, *diagrydium rosatum*, black Hellebore prepared, *Turbith* each half an Ounce, Aloes one Ounce, *species diarrhodon Abbatis* half an Ounce. Put them in a glass Vessel with Spirit of Wine, that it may be eight inches above. Digest them for ten days in a hot place, afterwards add *species diarrhodon*, and infuse them yet four days longer. Strain them out well, and let the strained Liquor be destilled in *balneo Mariae*, till it exhale to a just consistency. The Dose of this Extract is half a Scruple.

Here is a Form for young Beginners.

Take of *extractum cephalicum* eight Grains, Resin of Jalap fix Grains, volatil Salt of Amber, Gum *galbanum*, Ammoniack each three Grains, Oyl of Myrrh one drop. Mix them. Make Pills.

Or according to the Galenical way;

In a Decoction of the Woods infuse of Leaves of Senna three Drachms, Aniseed half a Drachm, to the Colature add of Syrup of Roses solutive one Ounce. Mix them.

For an utter consuming of the catarrhus matter, *Hartman* persuades the use of *pilula de succino Cratonis* every Week in Syrup of Betony, to about half a Drachm, and to take it three hours after Supper for three Months, and I do

not discommend the use of them.

To correct the Acrimony, or Acidity, or Saltneis of the Blood and serum, and to cast every foreign Salt out of the Blood, and to restore its due *crasis*, these things are proper, *liquor cornu cervi succinatus*, about seven drops of it in some convenient Liquor, *spiritus salis Ammoniaci anisatus*, that is, if there be a Cough, also *sal volatile succini*, and that excellent Remedy, *Essentia nostra catarrhalis*. Here are some Receipts for younger Physicians.

Take of Water of Mother of Thyme three Ounces, Syrup of Betony one Ounce and an half, Essence of Sassafras-Wood two Drachms. Mix, and give it. Or,

Take of Essence of Sassafras-Wood half an Ounce, of Rosemary Flowers two Drachms. Mix them. The Dose is forty drops. Or,

Take of *essentia nostra catarrhalis*, Spirit of Vitriol, *spiritus cephalicus*, each two Drachms. Mix them. Or,

Take of *guajacum* Wood one Drachm, Tincture of Antimony half a Drachm, *antimonium diaphoreticum* one Drachm, Decoction of *guajacum* Wood three Ounces. Mix them. Make a Sudorifick for three times. Or,

Take of Essence of Amber two Drachms, Spirit of Sal Ammoniack half a Drachm, Oyl of Marjoram, Amber, Anise each two drops. Mix them. Give thirty drops for a Dose.

D. Tachenius commends Camphore dissolved in some proper Oyl, for a specifick: Or,

Take of Spirit of Tartar, *Sassafras*, *Guajacum* each one Drachm, *liquor cornu cervi succinatus* half a Drachm, Decoction of *Sassafras* Wood two Ounces. Mix them.

A catarrhal Water of the Woods, is of no mean use. For *Brunnerus* in his Counsels, calls *Sassafras*-Wood a most noble Medicine in all Catarrhs. Here is a Form;

Take of Wood of *Guajacum* three Ounces, *Sassafras* two Ounces, Oak half an Ounce, yellow Saunders five Drachms, Brazile half an Ounce, Root of *Sarsaparilla* one Ounce and an half, *Elecampane* five Drachms, *Liquorice* three Drachms, Bark of *Guajacum* six Drachms. When they are cut, infuse them in Water of *Fumitory*, *Cresses*, *Scurvy-Grass*, *Columbine* each two Quarts, digest them fourteen hours, and then destil them. The Dose is one Ounce and an half every Morning and Evening.

Next to this is the drinking of *Thea*, and Spirit of wild Thyme, gathered before Sun-rising, destilled off good Wine, several times cohobated, and fresh added. In this Spirit *Sassafras*-Wood ought to be infused, and a catarrhal Essence is made.

Also to correct Catarrhs, and amend the Serum and Blood, *sal volatile oleosum Sylvii* and *nostrum*, & *aqua benedicta serpilli Mynsichti*, are good. And Spirit of Vitriol is said to be a singular Medicine in drying up all Catarrhs.

If by a too sharp *Lympha*, made so by an excessive cold Air, the *Larynx* be affected, and a dry Cough be raised thereby, and shortness of Breath, with Oppression, because of the Coagulation of the Blood, arise; some *Sperma ceti* must by all means be given in some Broth or Beer. Here follows a Receipt.

Take of *Sperma ceti* one Drachm, prepared Amber, Flowers of *Benzoin* each half a Drachm. Mix them for two Doses, when one goes to Bed. Or,

Take of prepared Amber one Drachm and an half, *species diatragacanthi frigidi* one Drachm, Sugar dissolved in *Betony-Water* what is sufficient. Make Tablets according to Art.

Opiates also will be very proper, such as new Treacle, *massa pilularum de cynoglossa*, *de styrace*, *theriaca coelestis*, &c.

If a Catarrh have siezed any Place, and cause much Pain; then the things aforesaid may be joined with Opiates, and a Bag filled with the things following, or with some such like may be applied to the pained Part. Take of the *Emollient* and *Discurient* Herbs as much as you will; boyl them in Milk, and apply them. Then we use to conclude the Cure with purging. Diureticks also may be given sometimes, such as *Wood-Lice*, *Crabs-Eyes*, *Salts*, &c. inasmuch as they discharge the abounding serum by Urine: Hence we read in *Riverius*, how Oyl of *Scorpions* anointed on the Back-bone outwardly did good. Among *Externals* there are divers Plasters, and among these *Emplastrum cephalicum*

Schroderi, & epilepticum Cratonis excell. Mastich with carded Wool may be applied to the Crown of the Head; this may be anointed also with Oyl of Amber, Rosemary and other things. Nor must these and other things be neglected, for the Nostrils and Temples; for instance, Take Leaves of Mother, of Thyme, Marjoram, Seed of *Nigella* a little bruised two Drachms, distilled Oyl of Marjoram three drops. Make a *Nodus* with a Thread; it may also be wet in Marjoram Water. Washes for the Feet, inasmuch as they temper the Acrimony of the Blood and *serum*, and clear the Pores of the Skin or Tubes, of their Obstruction by gross and viscid Matter, and thereby promote Transpiration, are proper. We allow of Sternutatories and Masticatories, when the Eyes and Throat are well; we approve also of Bags and Caps made of Spices and other things. Besides, we are confirmed by Experience, That the Knots, that grow on a Wolf's Skin on the end of their Toes, worn on the Head is excellent for People in Catarrhs. A Cataplasim of very sowre Leven and Amber applied to the Head, gives help. *Emplastrum de Betonica & Tachamahaca* of each what is sufficient, may be amassed together with Oyl of Mastich, spread upon Leather, and covered with red Silk. Extract of Gum Juniper is a Specifick in Catarrhs. Issues because they evacuate an ichorous, peccant Matter, by the Passage made in the Skin, are of no contemptible use. As for Smoaking of Tabaco, we allow much to Custom; but ever remember golden Mediocrity: If Smokers would mix Tabaco with other Aromatick Herbs, especially *Thea*, it were

well. They might do their Business the better by the following Experiment. Take a red hot Plate of Iron, besprinkle it with Vinegar of Roses, and so take the Fume at the Nostrils; repeat this often. The following external catarrhal Powder will be proper for this end.

Take of Leaves of Sage, Marjoram, Rosemary each one Drachm, Cloves, Cinnamon each two Drachms, Lignaloës one Drachm, Frankincense one Drachm and an half. Mix them. Receive the Smoak with your Head covered with a Sheet.

Hartman's Amulet of Mullein-Root will be very proper.

I thought fit to add a few things about a Suffocative Catarrh, which is certainly a very dangerous Disease. For the Motion of the Lungs and Heart keeps pace with Life, when that is stopt, a Man, or any Creature, that has Lungs, must of necessity be choaked. We said before, That in this Disease the Blood stagnates in the *præcordia*, because of an acid Coagulator generally; wherefore it is nothing but the *Syncope cardiaca* of the Ancients; and if Froth rise out of the Lungs into the Throat, the case is extreme dangerous. Therefore to remove this Stagnation and Coagulation of the *serum* and Blood, in the Fit we immediately order letting of Blood either in the Arm or Foot, or instead of that, Cupping-glasses, with or without Scarification, for timorous People, to the end, that coagulated Blood may be dissolved in Circulation: For we find by experience, That presently as a Vein is opened, the Patient begins to Breathe. And if there be great danger,

danger, we fly to Cupping and Blisters, as to our last refuge. Then we procure a Stool with sharp Clysters made of aromatics and colocythiate Medicines tied in a Rag. For instance;

Take of pectoral Decoction half a Pint, dissolve of *elect. hieræ cum agaricæ* half an Ounce, *mel anthosatum* one Ounce, Oxes Gall one Drachm, Nitre fixt with Antimony two Scruples, one Yolk of an Egg. Make a Clyster.

At length we turn us to Dissolvents, or Hinderers of the Coagulation of the Blood. And many esteem the Potion following;

Take of *Sperma ceti*, from half a Drachm to two Drachms, dissolve it in a sufficient quantity of Hyssop Water, Syrup of Hyssop two Drachms. Mix them.

In this case also all Volatil Salts whatever are good, such as Volatil Salt of Amber, Harts-horn, Soot; and Volatil Spirits, such as *spiritus fuliginis succinatus noster*, which is made in manner following;

Take of Soot out of the Chimney, and Amber each alike, as much as you please. Destil it according to Art. First wash the Receiver with Spirit of Wine, and rectify it the usual way.

Pope Adrian's Wine must be reputed as a Secret. Spirit of Sulphur mixt with Spring Water is commended by several: For Acids do not only coagulate dissolved Blood, but also dissolve coagulated Blood. I have often known Gum Ammoniack, dissolved in Hyssop

Water, and given in Wine, do good. Crabs-Eyes egregiously dissolve grumescant and coagulated Blood. Here are Receipts;

Take of Essence of Myrrh one Drachm, *spiritus fuliginis succinatus* half a Drachm, *Elixir pectorale* one Drachm and an half. Mix them. Give twenty drops in the following or some such like mixture.

Take of Water of Hyssop, Fenil, each two Ounces, *aqua asthmatica Rudolphi* half an Ounce, *Oxy-mel* of Squills six Drachms. Mix them. Or,

Take of compound Spirit of Gum Ammoniack, *spiritus asthmaticus* each half an Ounce. Mix them. The Dose forty drops. Or,

Take of *lac Sulphuris* half a Drachm, *fls sulphuris myrrhatæ* one Drachm, Flower of Benzoin eight Grains, prepared Wood-Lice half a Drachm. Mix them.

Juice of Radish mixt with Sugar is an experienced Remedy.

Among Externals we highly value the following Plaster.

Take of *Tacamabaca*, Frankincense, Mastich each what is sufficient. Make a Plaster according to Art, and spread it upon Leather.

For the Motion of the Blood and serum (sometimes this catarrhal Matter runs so, and is evacuated out of the salival Glands by the lymphatick Vessels, upon the Throat and the *aspera arteria*, that it often endangers Strangling) Sudorificks promote it, that is, *tinctura bezoar-*

dica Michaelis, *antimonium diaphoreticum*, Spirit of Salt, urinous, volatile Spirit of Ivory, Soot, Castor. Out of the Fit I doubt not but divers Liniments and several other things before mentioned are proper here: for Instance;

Take of sowre Leven three Ounces, prepared Amber three Drachms, Vine Vinegar what is sufficient. Apply it to the Head.

For prevention we recommend

these Pills following, and the like;

Take of *Massa pilularum de succino Cratonis* one Drachm, Syrup of Roses made by several Infusions two Scruples, *scammonium rosatum* one Scruple. With Essence of Rosemary-Flowers, make them like *Aloephaginae*, for several times.

But not to be tedious, we shall forbear any thing more in this place, and betake our selves to other things.

BOOK II.

Of Diseases of the BREAST.

CHAP. I.

Of a Cough.

§. I.

IN the former Book we treated of Diseases of the Head; now we will proceed to those of the Breast, which contains all between the *aspera arteria* and the Diaphragm. And we shall begin with a Cough, which is commonly described, to be a violent, frequent, unequal and sonorous Efflation or Expiration, wherein a great part of the Breath bursting out with violence, does by main Strength endeavour to discharge the sharp Excrements, arising from a peccant Lympha, provoking and vellicating the Trachea, and the

Fibres of the Lungs. Every Cough is of one of these three Sorts; either Moist; or Dry, which is called Convulsive; or Stomachick. In a moist Cough, some Humor got into the Passages of the *Trachea*, is by Coughing voided at the Mouth; and as to consistency, this Humor is either thick or thin, crude or concocted. In a dry Cough nothing is brought up: and this is only caused by a subtil, heterogeneous Matter, perpetually irritating the nervous Fibres of the *Trachea* and Lungs, which we may call a Spasm or Convulsion of the Lungs. So likewise we question not, but a

Cough comes by consent: For we see, if the Stomach is loaded with tough Phlegm, that a Cough arises from thence; which we may call Stomachick: I verily believe also, That a Cough may proceed from consent with other Parts.

§. 2. Part affected.

THE Part affected in a Cough, is commonly reckoned to be the Lungs, which are affected sometimes by themselves, sometimes by consent with other Parts, to wit, the Breast or Diaphragm. For the Muscles that contract the Breast, the motive Fibres of the *bronchia*, and the Nerves of the Lungs sympathize, and other Nerves in Parts remote from the Breast being irritated, by means of the Spirits raise a Cough; nor will we excuse the *Trachea*, being a cartilaginous Pipe furnished with its Fibres.

§. 3. Diagnostick.

THE Signs of this Disease are manifest of themselves; for the Cough is so strong and frequent, that though the Patient would willingly hold it, he is not able; whence came the Proverb, *A Cough and Love cannot be hid*. The reason is, Because in a Cough the Breast must be very much compressed, since otherwise, that which is noxious can never be pumped up from those Parts by a Cough, and this preternatural Commotion, by reason of the site and conformation of those Parts, which serve for respiration. Oftentimes also in this case one feels a tickling in the inside of the Mouth, and a Pain in the Breast. The Humor also or *serum* or *pus*, which is voided by Coughing is vari-

ous, sometimes white, sometimes yellow or red, sometimes blew, as D. *Reisellius*, chief Physician of *Stutgard*, in the *German Ephemerides*, has observed; and sometimes the Spittle is black as I have often seen with my own Eyes. Sometimes this peccant Humor proceeds from the Sides of the *Larynx*, sometimes it lies deeper in the Pipes of the *bronchia*, sometimes in the Vesicles of the very Lungs, and these base Excrements are sometimes left in the utmost Vesicles of the *Trachea*, from whence they are cast out by frequent, violent and laborious Coughing. Sometimes Men spit Blood, the Voice is hoarse, sometimes so far lost, that it can scarce be heard. People, who have long Necks, are often lean and troubled with a Catarrh. Now we will proceed to the Cause.

§. 4. Cause.

ACCORDING to the Opinion of the Ancients, a moist Cough arises from an Humor, that falls from the Head upon the *aspera arteria* and Lungs, which if it come in great plenty and violence, there is also an excessive difficulty in breathing, a great Oppression is felt in the Breast, and sometimes in the Back, where the Lungs, sometimes the Membranes are afflicted; According to them therefore, a thick Phlegm stops the Organs and Passages of respiration, and exasperates and tickles these Parts. And they derive a dry Cough, either from Vapors or from Matter, but so subtil, or so viscid and glutinous, that it cannot be spit up. They hold that all the Humor falls from the Head upon the Breast; they are also of such another false Opinion, That

That Vapors can ascend from the lower Parts, to wit. the Spleen, Liver, Stomach, Womb, to these Parts, whence proceed Heat, Draught, Obstruction, and sometimes Exulceration. They also firmly believe, That a dry Cough may arise from these same Vapors in an Inflammation of the Liver and in Fevers: in a moist Cough, also they hold, That sometimes a viscid Matter is detained in the Lungs; and they prove it by this; Because a Cough comes in a Pleurisy, Consumption and Inflammation of the Lungs. They, as well the Moderns, do not question, but a Cough may come from compression of the Diaphragm, from Worms, and from other sharp Poysons. The Cause of Hoarseness is a too great moistning of the Membranes which make up the Larynx, by a Catarrh or destillation of an excrementitious Moisture, falling upon the *aspera arteria*, of which we treated sufficiently in a Catarrh.

§. 5.

Paracelsus, that Master of great Secrets, declares this Disease to be excrementitious, and maintains that it has its rise from Tartar, or a filthy Mucilage, whether it proceed from a frustrated separation and expulsion in the Lungs and Passages of the Breath, or be translated in a liquid or vaporous form from other Parts. Now by Tartar (which he calls the Dung of every Part) he means any excrementitious, foreign Humor, whether it be thin or thick, which of its own Nature tends to Coagulation, and has no Power in it for expulsion, but an astringent and acid or aluminous Virtue. For a *Mucus* sticking to the

Parts does by degrees, and insensibly dry and thicken by virtue of the Heat, and by supervention of a saline Spirit is turned into Slime, Gravel, Earth or Stone, which he reckons to be Sorts of Tartar: Or, to speak as other Men do, It is coagulated and congealed into a salt, vitreous, clayish Phlegm, or into a gritty and chalky Matter. This Tartar sticking to the Sides, stops the Passages of the Breath, by its acquired Acrimony, irritates the Membranes, and by open force infects the Lungs, because it is of a saline Nature (whose property it is, to be bred and coagulated of Water) so that the Tartar being dissolved by a dissolving, inciding and absterfise, saline Faculty, is by the Spirits, the mechanick Separatory and Expulsory of the Lungs, rejected through its proper Emunctory, the Lungs; as *Petræus in Nosolog. Harmonic.* expresses it.

§. 6.

Helmont holds, That a Cough and Hoarseness arise from a sense of some things noxious, that troubles the *Larynx* from the end of it to the bottom of the Lungs; whence the filthy Atoms of the Air, or sharp Fumes, or fierce Cold, insinuate themselves into the *Larynx*, or into the substance of the Lungs. So external Injuries get into them, and by their abortive Virtue make Excrements; thus he discourses of a moist Cough. And he thinks, that a dry Cough proceeds from scarcity of a salt *Mucus*; and the reason he gives, why a Cough is familiar to old Men, is, because a little Excrement resides in the extreme Branches of the *Larynx*, which does not yet stop the Pipes, but

but does by its presence disturb and diminish the local Ferment, whence continually Excrements are raised.

§. 7.

ACCORDING to Willis his hypothesis, the Primary Cause of every Cough is an Irritation of the Nerves and Fibres belonging to the Lungs. Oftentimes also a sharp Humor gathered in the Brain, and falling upon the Head of the pectoral Nerves, causes a most troublesome Cough; so a serum flowing out of the Arteries into the upper parts of the Throat or *Larynx*, may, in his Opinion, cause a frequent and troublesome Cough, without any notable hurt to the Lungs. This noble Author says a dry Cough is Idiopathic, and is caused divers ways. An obstruction of any one of the Pipes of the Lungs, whether it be by Compression, Oppletion or Contraction, of necessity causes a Cough. Such things also, as are able perpetually to irritate the nervous Fibres, cause a dry Cough, among which he reckons Inflammations, Tumors, Stagnation of the Blood, either through Plenitude or Depauperation, chalky or stony Concretions, *Polypi*, Worms, &c. But a dry Cough is sometimes raised by the instinct of Nature, instead of a Pump, as he says, namely, that the Blood, which can scarce pass the Lungs, either through its proper Dycrasie, or because the pneumonick Vessels are not wide enough, may by the shaking of those Parts be put forward, and put into swifter Motion. As for a convulsive Cough, its conjoint Cause consists in the irritation of the Lungs: for the Motive Parts, to wit the Nerves and nervous Fi-

bres, as often as they are irritated, cause a convulsive Cough. The irritating Matter, according to him, is serum continually flowing out of the Mass of Blood, because of its too loose Frame, and molesting the Pectorals, inasmuch as then it descends into the Cavity of the *Larynx* by the tracheal Arteries, and Hoarseness may be deduced from thence. This spasmodick Disposition therefore is from a heterogeneous and elastick Matter, falling out of the Brain by the Ducts of the Nerves, with the nervous Liquor, upon the motive Fibres of the Breast. Wherefore when the Spirits residing in the Fibres, are incited to violent Motions of Expiration, they go into convulsive Motions. See the Author's discourse of the *Chin-Cough*.

§. 8.

Silvius thinks that every thing, which is able to vellicate or any way to irritate the *aspera arteria* of the Lungs, may be the cause of a Cough, and what quite besmears the *aspera arteria*, is the cause of Hoarseness. Sometimes something coming from without, or taken by the Mouth, is carried the wrong way into the *Larynx*, and therefore causes a Cough; which also the Humors, that fall from the Head (the cause of a moist Cough) may do; and they are either pituitous, sometimes Sharp, Salt or Acid, sometimes Mild and Insipid, sometimes Thick and Clammy. He proves this by consumptive People, when the *Pus* or *Sanies* penetrates into the *aspera arteria*, then a most troublesome Cough is raised, of which alone the Patient complains. And he does not doubt but Blood and Phlegm,

Phlegm, namely a coagulated *serum* translated out of the Substance or Vessels of the Lungs into the *aspera arteria*, may cause a Cough. He acknowledges either the Air or cold Drink, troubling the *aspera arteria*, for external causes of a dry Cough. Some of the Internal causes, with him, are a Catarrh either very Viscid, or too thin and sharp, sometimes Exhalations and Wind, arising out of the *intestinum tenue* and Stomach, and drawn with the Air into the Lungs, or elevated from an effervescence between the Bile and pancreatick Juice; namely by the lacteal Veins insinuating themselves into the Heart, and then into the Vessels of the Lungs, and from thence into the *trachea*, and forcing the *Larynx* to a Cough. He ascribes Hoarseness to a salt, briny Spirit, which does not so much corrode the Parts, designed for Voice, as they affect them in some unexpressible manner.

§. 9.

Artes and his followers accuse the pointed, sharp Particles of the Blood, which by the circulation of Humors are carried into the Muscles, which serve for Inspiration or Expiration, and residing there in too great quantity, do vellicate the Parts with an unusual trouble, and so cause this convulsive Motion. Sharp Catarrhs, and salt Destillations, falling upon the Jaws or the *aspera arteria*, have the same effect. In like manner the Particles of extravasated Blood being by continuance changed and made sharp, since they irritate the *bronchia* of the Lungs, cause a Cough, as one may see in spitting of Blood. If therefore these Particles predomi-

nate about the Jaws and Lungs, it cannot otherwise be, but such a preternatural Motion, namely a Cough, must be raised.

§. 10.

WE shall give our own Opinion without any ambiguity. Generally therefore we think, That this Disease comes from some Fault in the *Lympha*, and not from a Catarrh, after the vulgar acceptance. But if any one by a Catarrh mean an evacuation of *Serum*, and not a defluxion from the Head, we shall not contend with him; because he is of our Mind. *Lympha* therefore is the Cause, inasmuch as being too largely poured out of the neighbouring Glands, it seizes upon the Jaws, and especially the *aspera arteria*; by its too much Acidity also, which it acquires by continuance, it irritates and vellicates these nervous Parts, whereby such painful Motions of the said Parts, and repeated spasmodick Crispatations are caused, for which very reason a troublesom convulsive Cough arises. But if the serous Filth be so Viscid, that it quite fills up the Chinks and Holes of the *aspera arteria*, then a Hoarseness arises. Most times some fault in the inspired Air precedes, which penetrates and hurts the said Parts, and hinders insensible transpiration a little, whereupon the *Lympha* grows sharp and sower, and springs faster out of the Glands, and so causes a troublesom Cough and Sniveling. For when a Man's Body is very hot, the Pores of the Skin are very open, through which abundance of Matter flies away by insensible transpiration; when therefore such a Body is exposed to the cold Air,

many

many Particles of the Air insinuate themselves into the open Pores of the Skin, whereby insensible transpiration is partly hindred, the more subtil Particles flying away, grosser remain, which afterward by the perpetual flying away of the subtil Particles, grow thicker and thicker, and harder and harder; then if this thick Matter stick in the Muscles and Membranes of the Breast and Lungs, by vellicating the Nerves with its Acrimony, it causes a Cough. Nor do we here exclude any heterogeneous thing whatever, which is able either outwardly or inwardly to irritate, vellicate and contract the Fibres and Membranes of the *aspera arteria* or Lungs, whether it be Dust, Air, Smoak, Phlegm, Pus, Sanies, or extravasated Blood. Without doubt also we must reckon, the Blood does remotely contribute much to a Hoarseness. This is confirmed by a Girl, who for want of her *Menstrua* fell into a Hoarseness for half a year, and when they returned, her Hoarseness left her. Phlegm grows thick in the Lungs, because of drawing in the cold Air, and acid Particles mixt with the Air, which thicken the Phlegm.

A Cough very often arises, if phlegmatick, or falso-acid stuff float in the Stomach, which successively irritates the upper Orifice of the Stomach by its offensive and troublesome Acrimony; then the Diaphragm and the Muscles next it, designed for expiration are convulse, and so shake the Breast. Such a Cough I observed in a Woman that had a Cancer in her left Breast, who, because her pectoral Muscles were almost eaten away by the Acrimony of the Blood, was continually troubled with shortness of Breath

and a dry Cough, and at length bid farewell to this World. These things premised, we conclude, there is a three-fold Cough; namely, a moist one, a convulsive or dry one, and a stomachick one. The beginning of Motion in a Cough is in the Lungs, as in the shop of respiration, as we may see in a Consumption, Peripneumony, Pleurisy, &c. Then the Muscles of the Breast also are raised and irritated, which very much compress the Breast, by that means the better to expel whatever is contained in the Passages of the Breath: for the Breath is sometimes forced out so violently, that by its violence it sometimes carries along with it the Excrements which lye in its way. Towards evening, when the Patient goes to Bed, the Cough grows worse, because the saline Particles that lay still before, are stirred by the heat of the Bed, and driven into the Lungs, and so they cause a provocation to Cough.

§. II. Prognostick.

Let us now proceed to the Prognostick, that Delphick Oracle of Physicians. And the Prognostick in our Disease may be so proceeded upon. It is but a slight Disease, and sometimes leaves the Patient quickly; but if a Cough continue any time, it should not be despised, as *Sylvius* in his *Praxis medica* observes. For if it get root, it will scarce go away without hurt to the Lungs: for any salt or sharp Humor, when evasated, by standing still it grows sharper and saltier, by which the Lungs, that are flaccid, and of a thin texture may easily be eroded. A Cough therefore of long continuance brings the Patient to a Consumption. Sometimes al-

So through violent Straining and Motion of the Breast, or the Acrimony of the latent Humors, the Vessels and Vesicles of the Lungs are broke, whence spitting of Blood, the fore runner of a future Consumption, or Ulcer of the Lungs, proceeds. For a Cough proceeding from an Ulcer, or Abscess of those Parts is exceeding dangerous. A Cough which before was moist, and suddenly turns dry, with a heaviness of Breast, threatens an exulceration of the Lungs, and is therefore dangerous. A continual Cough from an old Obstruction, the Lungs also being indisposed or corrupted, is hard to cure. A dry Cough with a little Fever, growing worse after Meat, and when the Patient can spit nothing, argues a hec tick Fever. So a dry Cough with much straining is very dangerous in Women with Child, and often causes miscarriage. On the contrary, a Cough with little straining, alleviation, much and speedy raising without Pains and Weariness is without danger.

§. 12. *Dietetick Cure.*

WE have done with the Disease, we will now go to its Cure. The benefit of an exact Diet appears principally in prevention. Chuse therefore an Air temperate and enclining to dry, which is of great advantage in a Cough: but one that is out of its due temperature, inasmuch as it is drawn in with the Breath, or is circumambient to the Body, or, as *Sylvius* will have it, is swallowed with the Spittle, by the nitrous Acrimony of the Particles whereof it consists, especially in Winter time, hurts the Throat and Lungs, as *Hippocrates* says, *f. 3. aph. 13.* Coughs come in Winter; and *f. 3. aph. 5.* as also

f. 5. aph. 24. Cold things, as Ice and Snow, are enemies to the Breast, thence arise Coughs and Destillations. When therefore the Sun makes his farthest recess from us in *Capricorn*, Coughs are rise, so do *Virgo* and *Libra*, when they pour down Showres from the Clouds. Avoid every Air that is impure, cloudy, smoaky, and full of moist Vapors.

As to *Meat*, it must be temperate, and such as by its mild and sweet Particles may assuage the membranous, fibrous and sensible Parts; let all sharp and high seasoned Meats, and such as render the *Serum* fluid and sharp, be forborn; so must all things dried in the Smoak; for sharp Juices corrode and vellicate those Parts.

The *drink* must be the pisan of the Ancients; or Mede, or a Decoction of Barly with Raisins and Figs, or the Ingredients for the pectoral Decoction described in the *Augustan* dispensatory. Large and hasty drinking of very cold Drink is hurtful: for I have observed a very troublesome Cough come upon drinking but one draught of cold Beer or Water. Any new, thin and acid Wine, especially *Franconian*, is exceeding hurtful.

Motion and *Rest* must be moderate, for too long and violent Motion sharpens all Humors, especially the *Serum*, and causes it to evaporate. And too much *Rest* is hurtful, because it deadens the Spirits, and renders the Blood unfit for Motion.

Sleep and *Watching* must keep the same measure; for in excess they may cause many inconveniences in a Cough.

As for the *excreta* and *retenta*, the Belly must be loose by Art, if Nature will not do it. For if the natural and ordinary Evacuations of the

the Belly, Bladder or Womb succeed not, then *Serum* is gathered in the Body, and Coughs follow.

As to the *Passions of the Mind*, Joy and moderate Encouragements of Mind must be chosen. On the contrary, heavy Cares, Anger and Grief long continued are hurtful, especially the last.

§. 13. Pharmaceutick Cure.

NOW we will see, what Authors say of the Cure of this Disease; and first of all what the Opinion of the Ancients was. They in this Disease first of all render the redundant Humors in the Body obedient to Nature by Preparers; wherefore if the Cough be produced by a cold, thick, viscid Humor, then they use attenuating, inciding and deterfive Medicines; but if it proceed from a thin and hot Humor, they advise the use of incrassating and inspissating things. Their preparatives of the first sort are, Syrup of Hyssop, Horehound, Liquorice, Maiden-hair, Calamint, French-Lavender, Oxyssel compound of Squills, Syrup of Vinegar, Honey of Roses, Decoction of Figs, Raisins, Liquorice, Maiden-hair, Hyssop, Horehound, Water of Scabious, Horehound, Fenil, Hyssop, &c. Preparatives of the latter sort are, Syrup of Violets, Poppy, Jujubes, Water-Lily, Myrtles and Water of Barly, which is reckoned very good. And when they have so corrected and prepared the peccant Matter, they Purge it off, and their Evacuators are these following, *diaturbith cum rhabarbaro*, *electuarium Indum majus*, *diaphœniceon*, *electuarium rosarum*, *hiera picra*, *pilule cochiae*, *alcephangina*, *de sarcocolla*, *de agarico*, *maslichina*,

manna, *cassia*, decoction of Senna-leaves, &c. Here is a Receipt or two of the Ancients.

Take of a Decoction of Hyssop and Fenil three Ounces; add of *diaturbith cum rhabarbaro*, *electuarium Indum* each three Drachms, Syrup of Liquorice half an Ounce. Mix them. Make a Potion. Or,

Take of pectoral Decoction with Senna and Polypody three Ounces. In the colature infuse of Agarick trochiscated fresh one Drachm, choice Rhubarb four Scruples, Cinnamon one Drachm and an half. In the expression dissolve of *Antidotus Inda major* two Drachms, Oxyssel of Squills one Drachm. Make a Potion.

And they use this Potion in a thick and viscid Matter; but in a hot Cough they use only *Cassia*, or two Ounces of Calabrian Manna dissolved in Hyssop Water.

Then in a Cough they endeavor to avert the Matter, which they believe falls from the Head on the Lungs, by Clysters, Errhines, Bleeding, Issues and Baths, afterwards they prescribe such things as may stop the Matter from falling on the Lungs; of which we have spoke sufficiently in the Chapter of Catarrhs. Last of all they order such things, as may bring up the Matter wherewith the Lungs are stuffed, to which they add things to strengthen a weak Part. Things to promote Spittle, are Syrup of Liquorice and its Juice, *diatragacanth*, *loboch sanum*, *e pulmone vulpis*, *de pino*, *diapenidium*, Elecampane, Florentine Iris root. Let this serve for a Receipt;

Take

Take of Sugar of Violets, Water-Lily each half an Ounce, *diatragacanth. sine spec.* half a Drachm, Juice of Liquorice two Drachms, *rotula bechica* one Drachm, *styrax calamita* one Drachm and an half, Myrrh, dried Roses each one Drachm, Tragacanth, Pine-Nuts each half a Drachm, Syrup of Violets what is sufficient. Make an *eclegma* or Lohoch.

External Emollients are Oynments of Marsh-mallows, Linseed-Oyl, fresh Butter, Oyl of sweet Almonds, Mucilage of Linseed, Fennugreek, Saffron. Here is a Receipt;

Take of Powder of *Iris* two Drachms, Meal of Lupins, Powder of Hyssop each half a Drachm, Saffron six Grains, Oyl of Chamomil, Line, White Lilies each six Drachms. Mix them with a little Wax. Make an Unguent.

Their Corroboraters are, Treacle, Mithridate taken twice a Week, *species diaireos Solomonis*, *loboch Sannum*, *de pino*, *diapenidium*, Maiden-hair, Betony, Syrup of Baum, *loboch ad Asthma*, Decoctions of the Woods *guajacum*, *sassafras*, &c. And they apply to the Crown of the Head a Cap of dried Roses, Cloves, Mace, Seed of *Nigella*, *Cyprus* root, yellow Amber, *Ladanum* and *Styrax*. If a Cough come through excessive Irritation, some of the old Practitioners do deservedly magnify a Decoction of Barley made with a moderate quantity of Sugar, and they give Narcoticks mixt with derivative Medicines: for instance;

Take of Juice of Liquorice two Drachms and an half, Starch one

Drachm and an half, Saffron, Myrrh each half a Drachm, *Opium* three Grains, *styrax calamita* three Drachms, Syrup of Violets what is sufficient. Make Pills. Give one Drachm at going to Bed. Or take an Ounce of *Diacodium Augustanum*.

And when the Matter is near ripening, and is sufficiently attenuated, they will have a Decoction of Figs, Raisins, Liquorice, Hyssop, Violets, Quince-seed, Mallow-root, &c. Fumigations also are of use here. At last in a desperate case they use Cauteries both actual and potential, Blisters, Leeches, Frictions, Scarifications, &c.

§. 14.

THE Chymists come next, who by *Paracelsus* his *arcana*, that is, by Depuration, do with success Cure this Disease. If therefore the Cough proceed from a viscid Matter or Tartar, they magnify Flowers, Tinctures, and Butter of Antimony, Rubine, and Balsams of Sulphur made with Gum, Myrrh, Frankincense, Aloes, Saffron, *terra sigillata*, &c. They say also, that Oyl of Vitriol and of the Philosophers is of great efficacy in this Disease. Here is a Receipt.

Take of Water of Colts-foot, Speedwell each three Ounces, Spirit of Vitriol, Philosophers, Oyl of Aniseeds, Fenil-seed each one Scruple, Syrup of Liquorice, Violets each one Ounce. Mix them.

They also highly cry up Opiates in this case, with this Caution, That they be not given to such as are

are weak, or have their Breast stuffed with Recrements: for though they abate the Cough, and procure sweet Sleep; yet they encrease straitness and difficulty of breathing. But they admit of *laudanum opiatum* in a small Dose mixt with abstergents, upon urgent necessity, in the beginning of a thin and sharp Defluxion.

§. 15.

Helmont and his Disciples reject Purging as hurtful in a Cough, believing that the excrementitious Matter will not give way to Purging, though the spitting seem to be abated after Purging, for probably this proceeds from diminution of the menses Blood, and from a more scanty dispensation of Aliment. Besides, Purgatives weaken the whole, and so do more harm than good. By his advice therefore a Cough shall be cured by Narcoticks. To this end he commends *laudanum Paracelsi* for liberty of breathing. For all anodine Remedies, endued with a restorative and asswaging Virtue, appease and quiet all mad Symptoms, which stop and remove degenerate Phlegm and Spittle, as long as it depends upon some fault in the digestive Ferment; and that, in right of the duumvirate of the Stomach, which being helped by Medicines is able by its general digestive Faculty, to correct all the Errors of the digestive Parts, the Products of Excrements in the Lungs; unless they come from some proper defect in the Lungs, through the corruption of their innate strength, and then they putrefy, whether the Stomach will or no. Among Anodines he reckons, *an-*

odinum saccharinum Sulphuris made of Flowers of Sulphur finely opened: And the anodine Virtue of this Medicine, appears hence, in that while it is yet in the Stomach, it reaches the Lungs, so as to influence them. Smoak of Sulphur does something, which penetrates and helps the Lungs, as it preserves Wine from corruption. *Opium* also and Opiates, so prepared as to have what is mortal separated, are proper. For if one knew but how to separate what is Mortal from Poppy, he certainly had got one of the best Remedies for a Cough. And this may be done by the Liquor *alkabest*, as *Grembs* says in *arbore ruinoso*, lib. 2. c. 1. §. 9. de *pulmonum defectibus*. Therefore *laudanum Paracelsi* and his *alkabest* introduce Peace and Rest to the *Archans*, and put a stop to the degenerate Digestion, check the thin and yellow Spittle, and turn it white and healthy. He also commends the taking of pleuritic and vulnerary Medicines in drink.

§. 16.

Utilis in a Cough proceeds upon three Indications.

1. He rectifies the disorder in the Blood, from whence Fluxions of the *Serum* proceed. 2. He derives the Recrements of the Blood, that are apt to separate from it, from the Lungs to the Pores of the Skin, or the urinary Passages, and other Emunctories. 3. He strengthens the Lungs against the susception of *Serum* and other Humors, and fences them against the invasion of external Cold.

The first Indication respects the excessive effervescence of the Blood, whereby the Blood, by reason its
effluvia

effluvia are stoppt (for if we may believe *Sanctorius*, who weighed in an exact balance the quantity of what we lose and perspire, more is evacuated in one natural day by insensible transpiration, than is in fifteen days by stool) boils up too much in its Vessels, whereupon the *Serum* and other Humors are apt to part from the Blood. Therefore, to check this, the injury of the Cold must diligently be avoided, a thin Diet must be kept, transpiration must be procured, and a gentle Sweat given Morning and Evening with Rosemary or Sage Posset-drink: and when these things will not avail, we must proceed to letting of Blood, if Strength be sufficient. Pectoral Decoctions also are good for this purpose, inasmuch as they destroy the Acidity of the Humors, and stop the dissolution of the Blood, and its fusion into Serosities; therefore Medicines made of Sulphur are good.

The second Indication, that the *Serum* and other Recrements of the Blood, being derived from the Lungs, may be evacuated by some of the Emunctories, is performed by Diaphoreticks, Diureticks and gentle Purgers. To this end after bleeding he gives a gentle Purge, and repeats it several times. Then he advises the giving of pectoral Decoctions, made of roots of Chervil, Butcher's-broom, and Elecampane. He commends Woodlice, volatil Salt of Amber and several fixt Salts, and testaceous Powders, as Diureticks; to which end he magnifies Turpentine Pills.

In the third Indication he intends a suppression of the Catarrh, and he guards the Lungs against Fluxions of the Humors, and Invasion of Cold by Licks and Eclegms.

Then he has respect to two things. 1. That the Mouths of the Vessels and Glands opening upon the *trachea*, may not discharge their Serosities too much upon it, but that they may be moderately closed by Astringents; and 2. That the sides of the Passages of the *Larynx* may be sufficiently smoothed, that they may neither be offended by suffusion of a sharp *Serum*, nor by the invasion of external Cold, nor be continually irritated to a troublesome Cough. For closing up the gaping Mouths of the Glands, he commends conserve of Red-roses, *olibanum*, *loboch de pino*. I shall give young Physicians some of his Receipts, such as I my self have experienced;

Take of Oyl of sweet Almonds new drawn, Syrup of Maiden-hair each one Ounce and an half, Sugar-Candy two Drachms. Mix them by rubbing in a glass Mortar, or shaking them in a Glass, till they grow white, then lick it.

Our famous Author knows not a better Medicine than this following, for a Cough, if there be no fever;

Take of Tincture of Sulphur half an Ounce. The Dose from six to ten Drops, given Morning and Evening in a spoonful of Syrup of Violets.

For this end he commends Balsam of Sulphur, of Peru and opobalsamum from three Drops to ten. Among trochiscs he has these following, often experienced by us;

Take

Take of Syrup of white Poppy fix Drachms, Powder of red Poppy Flowers one Drachm, extract of Liquorice two Drachms, *lac Sulphuris* half a Drachm, Sugar penidiate two Ounces, with a sufficient quantity of dissolved tragacanth make a mass for Trochiscs; Or,

Take of *species diaireos, diatragacanthi frigidi* each three Drachms, Flowers of Sulphur, Powder of Elecampane-root, white Benzoin each one Drachm, add of *aleosaccharum anisi* one Scruple, the whitest Sugar dissolved and boiled up for Lozenges eight Ounces. Make Lozenges of half a Drachm's weight.

Among Pills he commends the following;

Take of Powder of Elecampane root, Liquorice, Flower of Sulphur each one Drachm, Benzoin half a Drachm, Tar what is sufficient. Make them into small Pills. The Dose three or four Morning and Evening. He holds, That Decoctions of the known Woods are good.

In a chin Cough, which usually afflicts Children, and by reason of the stagnation of the Blood makes them black in the Face, he says, this following is excellent;

Take of Cup-Moss three Drachms, *lac Sulphuris* one Drachm, Sugar Candy half a Drachm. Mix them, make a very fine Powder. The Dose, a Scruple twice a day.

§. 17.

Sylbius, for correcting the phlegmatick and acid Humors, that fall from the Head upon the *aspera arteria*, and so cause a Cough, magnifies Crabs-eyes, Coral, Pearl, &c. And for correcting salt Humors, Gum tragacanth, Arabick, root of Marsh-mallow and its Sugar, root of Liquorice and its Juice, *pilula de cynoglossa, de styrace*, or the following Lozenges;

Take of Seed of white Henbane, white Poppy each half a Drachm, *olibanum*, red Myrrh each one Scruple, the best Saffron half a Scruple, Liquorice-Juice one Drachm, Sugar of Marsh-mallow half an Ounce, some Gum tragacanth dissolved in Rose-Water. Make Lozenges according to Art.

He uses these generally, in case the Humors be thin; but when they are thick and viscid, and require attenuation, then he prescribes *Oxymel* simple and of Squills, Syrup of Hyssop, or *de duabus radicibus*, to be taken by Spoonfuls. Here is one of the Author's Receipts;

Take of Water of Hyssop two Ounces, *Oxymel* of Squills fix Drachms, Syrup of Hyssop, Maiden-hair each one Ounce. Mix them. Let the Patient take it by spoonfuls.

If the Cough arise from too hot a Blood, carried to the *aspera arteria* from the Head or any other Place, it may be cured by letting of Blood, especially if a *plethora* concur;

concur; and if the Heat be great, it must be asswaged by austere things; for which purpose he commends the following Apozeme.

Take of Leaves of Plantain, House-leek, Woodforel each one handful. Boil them in Barly Water. To twenty Ounces of the Colature add of Syrup of Jujubs four Ounces, *lapis prunella* one Drachm. Mix them. Let the Patient take a draught of this Apozeme after every flushing, and sometimes a subsequent bleeding at the Nose.

And a dry Cough, according to our Authors's Opinion, arising from cold Air or Drink, may be stopt by holding ones Breath: for so he cured himself. But if a dry Cough have its rise from tough or viscid Humors, he orders Incisers, such as *trochisci bechici albi & nigri*, Elecampane root in Powder, made into Lozenges with Sugar: then he advises the carrying off these Humors by divers Evacuators. And for Vapors and Wind which come any way from the *intestinum tenue* to the Lungs, and so produce a dry Cough, he will have them dissipated by Carminatives, such as Water, Spirits and Seeds that are carminative, &c. He cures a most grievous Hoarseness, which lasts for several Months, only by giving a few drops of Spirit of Sal Ammoniack every day in his ordinary drink.

§. 18.

THE **Cartesians** cure a Cough successfully, by dulling and smoothing the acute Particles, that vellicate the nervous Membranes in the *aspera arteria* and the Lungs.

For which purpose he commends sweet things (especially if the Phlegm be salt, and erode the Throat) and Opiates, which also temper the Acrimony of the Humors, to wit, *laudanum opiatum Paracelsi*. See *Hornius* his *arca Mosis* p. 156. He says, that Vinegar of Squills is proper, if there be a mixture of viscid Phlegm. In excessive heat, they give restaceous and ponderous things, such as may dull these acute and cutting Particles, and imbibe them, just as Crabs-eyes, put in Vinegar, take away its sowreness. These Medicines are, Crabs-eyes, *lapis prunella*, Coral, &c. For a Purge they commend *Mercurius dulcis*, because it cuts Phlegm very well; but if the Phlegm be thin, they commend Opiates. In the rest they generally agree with other Authors and with Us.

§. 19.

NOW we will give you our own Opinion. If a Cough therefore come from the *Larynx* being affected, or from the Irritation of a cold Air, things made of *Opium* and Poppy are proper, for they stop thin Catarrhs by thickning them, they in some measure assuage the troublesom Sense in the *Larynx*, and the Irritation in the *Pharynx*, and by these means hinder the plentiful expression of *Lympha* out of the Glands by the strained Fibres. In the mean time a convenient temperature, proportionate to the touch of the *Larynx* is acquired; and so the Spittle appearing more concocted and thick, may the more easily be raised. In the foresaid Cough therefore we give Opiates with great success, such as *laudanum opiatum* prepared our way,

theriaca cœlestis, *diacodium*, *pilula de styrace*, *tinctura opiata Wedelii*, *pilula de cynoglossa*. Here is a Receipt or two;

Take of *Sperma ceti* half a Drachm, prepared Amber one Scruple, *theriaca cœlestis Hanoviensis* four Grains. Mix them. Make a Powder for two Doses, one to be taken in the Evening before Supper, and then at going to Bed, in a little Broth, or in the following Vehicle;

Take of Fenil-Water, *loboch sanum* each one Ounce and an half, *syrupus de Eryfino Lobelii* one Ounce. Mix and give it.

Here is a Powder;

Take of *Sperma ceti* two Scruples, Flower of Benzoin, Myrrh each half a Scruple, *laudanum opiatum* three Grains. Mix them. Make a Powder for three Doses.

Poppy Medicines are good in salt Catarrhs. Here is a Receipt;

Take of *loboch de papavere* one Ounce, Syrup of Myrtles, *diacodium* each six Drachms, *species diatragacanthi frigidi* one Drachm, Bole Armenick half a Drachm, prepared Amber one Scruple. Mix them. Let the Patient take it by spoonfuls.

The following Lozenges are good; for I have always found them such in serous Catarrhs;

Take of *species diaireos simplicis*, *diatragacanthi frigidi* each one Drachm, Myrrh half a Scruple, Bole Armenick prepared half a

Drachm, *confectio alkermes* one Drachm, extract of Colts-foot, Elecampane, Lignaloës each half a Scruple, Conserve of red Roses six Drachms, the whitest Sugar six Ounces. Mix them. Make Lozenges.

In this case, for the ordinary drink, a Decoction of the Woods, especially of red *Brazile* with other Pectorals, is good. But if the Cough be settled, and have its rise from a sower viscid Serum, lodged in the Vesicles of the Lungs, we highly value, in order to cure, inciding and aromatick things, volatil Salts, bitter things, &c. and above all a Decoction of Elecampane root with Currans, also Spirit of Sal Ammoniack, *balsamus sulphuris anisatus*, & *liquor cornu cervi succinatus*, taken by drops, with which last I have cured several inveterate Coughs. When this viscous and tough Matter is incided, corrected and made thin, we fly to Purgers, and we have found the following Pills to have better success than others;

Take of *pilula marocostina* two Drachms, extract of Elecampane, root of Angelica each half a Drachm, Oyl of Sulphur, Anise, Fenil each six Drops, Powder of *Carduus Benedictus* one Scruple, prepared Amber half a Scruple, Spirit of Turpentine five drops. Make a Mass of Pills, of which take half a Drachm.

If much Salt be mixt with the Humors, and the Throat be irritated by the sharpness, so that the Cause of the Cough is multiplied, some lick or Juice of Liquorice must be held in the Mouth. In this Cough the simple Juices, in an
asthma,

asthma, the anisated must be taken. If there be heaviness, Spirit of Sal Ammoniack, according to *Sylvius*, will be good, or the following electuary.

Take of Juice of Cabbage clarified two Ounces, *saccharum penidiatum* half an Ounce, Oxymel of Squills one Ounce and an half, Powder of Mallow-root one Drachm and an half. Mix them. Make an Electuary. Or *rob passulatum*.

Hartman, for cutting the viscid Matter, commends the Liquor of Sugar, made with slices of Radish and Honey, also Spirit of Wine burnt with Sugar, which he calls *oleum sacchari magistrale*. But we rather forbear Sugar; for the sweet things that are commonly used are very prejudicial to Coughs, because they do not sweeten the Blood, but rather exasperate and fret the Lungs, which may be proved by what follows. For an acid Juice may be drawn off sugared things, so corroding, that it will bind the Tongue, set the Teeth on edge, gripe the Bowels; yea corrode Metals, and dissolve Antimony. Which if nice People would well consider, they would not emaciate themselves so with sugared things, and throw themselves into divers sicknesses. Hence also it may appear, how inconsiderately our Galenists act, who oftentimes in this Disease insist upon sugared things, as *Joh. Helfr. Junghen*, in his *Medicus presenti saculo accommodandus*, says very well. Neither can I imagine the Passages, whereby these sweet things may enter the Lungs whole, or dissolved, since not a drop of the most subtil Liquor can

get by the *aspera arteria* into them, without pain and choaking, and therefore there is a valve to hinder it. They cannot pass by the Stomach and a longer way without dissolution; and when they get thither dissolved, what do the dissolved acid Particles, but increase the Disease. Sugared things indeed have their use; but I never saw a consumptive Person cured thereby.

Let us therefore seek out such sweet things, as do change their Essence, but reach the Place in their full virtue, such as sulphureous exalted Medicines, and saline ones volatilized. We should therefore advise *Amatus Lusitanus* his Medicine for an inveterate Cough.

Take of yellow Sulphur half a Drachm, Benzoin one Scruple. Take it in a rear Egg in the Morning fasting and going to Bed. If there be hoarseness, this or some such Decoction will do good.

Take of husked Barley one handful, Currans one Ounce, Liquorice-root two Drachms, Cabbage-seeds three Drachms, leaves of Hyssop, lesser Centaury each one handful, fat Figs No. Vj. Boyl them in a sufficient quantity of common water. For every Dose, add a Drachm and an half of *Syrupus de Erysimo*. Mix them. Or,

Take of Cabbage Juice two Ounces, Powder of Florentine *Iris* two Drachms, Honey what is sufficient. Boyl them to the consistency of an Electuary.

If the Cough be desperate, and spitting of Blood concur with an effervescent Motion in the Blood, *Fausius* his pectoral Decoction will

be good, which the forsaide *Junc-*
ken describes. Or Onions or Gar-
 lick boyled may be eaten. But if
 the Cough arise from the Stomach,
 which is intraged by a Cough, a-
 bove all other things, we think, this
 viscid and mucilaginous Matter,
 that lies in the Stomach, should be
 cast out: for which nothing is bet-
 ter than a Vomit; because it gives
 present relief. Afterwards, for
 dissolving the remainder of the
 acid mucilaginous Matter, and for
 relieving the Fibres of the Coats of
 the Stomach, this following will
 be proper:

Take of Water of Hyssop, Mint
 each one Ounce and an half; Li-
 quor of Rhadish made with Su-
 gar one Drachm and an half, *Sper-*
macei, Syrup of Tabaco, Hedg-
 mustard each half an Ounce.
 Make a mixture, to be taken by
 spoonfuls.

Or *Sperma ceti* not rancid may
 be given with hog Broth from ten
 Grains to a Scruple, yea, a Drachm.
 Acids abate a Cough, if they be vo-
 latil, inasmuch as they infringe the
 Salt, and dissolve Phlegm. The
 reason, why Acids move a Cough,
 is this, because Acids, when they
 are taken do irritate the Throat,
 which is already in some measure
 excoriated by salt Phlegm, which
 Cough may presently be stopt, if the
 Mouth be washed with cold Water.
 But these Acids must be volatil,
 for otherwise they would coagulate
 the Phlegm. Women with Child
 also are often troubled with a dry
 Cough, in curing of which *pilula*
de cynoglossa, or *de styrace* taken once
 or twice a week, going to bed, are
 good. Here is a receipt;

Take of *massa pilularum de styrace*
 one Drachm. Make Pills of a
 Grain weight. Let the Patient
 take seven as she goes to bed.

Medicines of Myrrh are not con-
 temprible in a Cough, from what-
 soever cause it proceeds. There
 are several Externals, among which
 we may reckon the following lini-
 ment, for anointing the Breast;

Take of the pectoral Oyntment one
 Ounce, Grease of a Badger, a Goose
 each two Drachms, oriental Saf-
 fron half a Scruple. Mix them.
 Make a liniment.

Or for the Soles of the Feet;

Take of Garlick heads No. ij. Grease
 of a Hog what is sufficient, Pike-
 fish two Drachms. Mix them.
 Make a liniment wherewith the
 Soles of the Feet may be anoin-
 ted. Which may be done with
 the fat of a Pike-fish alone,
 which acts by a peculiar and un-
 speakable Motion upon the Lungs,
 and opens their stuffing.

Other external, chirurgical Re-
 medies in a Cough, Vesicatories,
 Cauteries actual and potential,
 Bleeding, Bathing, &c. may be
 gathered from what has pre-
 ceeded. Frictions and Ligatures
 do but incommode the Pati-
 ent.

In a Hoarseness with a Cough
pilula de cynoglossa and *de sty-*
race, about five of them, swal-
 lowed at Bed-time, are good;
 and Raisins may be steeped in
 Spirit of Wine or Aniseed Wa-
 ter,

ter, and the Patient may take it by Spoonfuls. I highly value Ginger candied in *China*, and all Medicines of Myrrh. In a Cough also a Swan's-skin may be outwardly applied to the Breast, or the Breast may be anointed with Swan's-Grease. *Hæferus* in the Fit commends the putting of the Feet into warm-Water.

Q 4

CHAP.

C H A P. II.

Of an Asthma, or shortness of Breath.

§. I.

IN the preceding Chapter we have discoursed of the inconveniences of a Cough. Now a more dangerous and difficult disease follows, which in Greek they call *Asthma*; some call it *epilepsia* or *caducus pulmonum*; some, *difficulty of breathing* or *shortness of Breath*. It is commonly described to be, *a difficult respiration, sometimes with, sometimes without a Fever, sometimes with a noise and rattling, sometimes without, arising from an obstruction of the Bronchia and Cells of the Lungs, or rather, as some will have it, from a straitness of them*. The difference is threefold. For when the difficulty of breathing is but moderate, without a noise and Fever, it is called *dyspnœa*. But when the Patient cannot breath without a noise and thickness of of Breath, it is called an *Asthma*. And if the Disease be so urgent, that the Patient cannot take his Breath, except he sits upright, it is called *orthopnœa* or *upright respiration*. *Helmont* makes a two fold *Asthma*, a Woman's *Asthma* and one

common to both Sexes, and he subdistinguishes it into a moist and a dry one.

§. 2. Part affected.

NEXT comes the Part affected, in which affair the old Galenists, and some of the Moderns contend, That the Branches of the *aspera arteria*, disseminated into the substance of the Lungs, are here affected; others blame the diaphragm it self for the Subject, being so persuaded on this ground, because scorbutick Persons, how difficultly soever they Breath, yet they complain nothing of their Breast, but show the place, where they feel their grievance, under the diaphragm. *Helmont* shoots several bolts, that he may hit the mark, for sometimes he acknowledges the ambient Membrane of the Lungs, sometimes the Stomach, sometimes the Womb, and sometimes the Spleen, for the Part affected. Some blame the Muscles that lift up the Ribs. We reckon the Lungs are the Subject, that wonderful Fan of Nature, together with all the Muscles that e-

levate

levate the Ribs, the chief whereof are the *ferrati postici*, upper and lower, the *levator costarum* of Steno, and the *cervicales descendentes* of Diemerbroeck, an influx of the animal Spirits being presupposed. For it is probable, that the *musculi levatores* or *patientia*, and the *rhomboidei* do give their assistance in inspiration, the *scapula* also assisting to lift up the Breast for larger inspiration, because the former arise from the *vertebrae* of the Neck, and the upper ones of the Back, and descending a little are inserted into the *scapula*, which are fixt to the Back. And this more fully appears, because in asthmatick People, and such as are ready to dy, while they do their utmost to fetch their Breath, the *scapula* are very much elevated. Yet we cannot be without the motion of our Lungs, for a few Minutes of an Hour, without imminent hazard of our Lives, which when stopt, the Blood must needs coagulate about the Heart. But here the Lungs are not affected in all their Parts alike; for some suffer more nearly, others more remotely; and the *bronchia* or Branches of the *aspera arteria* are most hurt in this Disease, not excluding the Vesicles, and the sanguiferous Vessels, which carry bad Matter to the Lungs: For according as the acid Particles are intrangled with divers Particles of viscid Phlegm, or with bilious or alkaline ones; so all Diseases happening in the Lungs do vary, being either slow or swift.

§. 3. A Case.

I Have a mind here to add a Case, very apposite to the business in hand. A Man above fifty years old,

of a sanguine Constitution, being very fat, had for three years and above, been troubled with a grievous shortness of Breath, so that he could scarce walk an hundred Paces, without fear of strangling. He in Winter-time, and a rainy Season fell ill of extreme shortness of Breath, growing always worse towards Night, while this lasted, he was forced to rise out of his sleep, he beat his Breast violently with his Hands, lest he should be choaked; he had a dry Cough, yet without a Fever; he in vain gaped with open mouth at the Window for Air, he could not speak; his Urine was thin and red; viscid Phlegm ran out at his Mouth; and he breathed with rattling and a noise.

§. 4. Diagnostick.

BY the preceding Case one may know the attendants of this Disease. And it is pretty well known of it self; but for the better knowledge and distinction of Diseases, besides what may be gathered from the Case, I shall recount a few things. There is therefore a thick and great respiration without a Fever, sometimes with shortness of Breath and a noise, which troubles Men more lying than sitting, the Breast is heavy, they Cough often, but bring up nothing that is purulent. Sometimes this Disease encreases so, namely in an *orthopnea*, that they are forced to take their Breath, with their Body erect, lest they should be quite strangled; there is a wheezing, and sometimes a rattling, growing worse, especially at Night. In a scorbutick *Asthma* there are puffings up of the Stomach, and painful Tensions of the *hypochondria*

hypochondria, rumbling in the Guts, frequent Spitting, Belching, Heart-burn, sometimes Vomiting, Palpitation of the Heart, Frights and Night-sweats, the Face is sometimes pale, sometimes shining and puffed up, the Urine sometimes high coloured, sometimes pale, red Gravel often sticks to the sides of the Chamber-pot, whence proceeds the obstruction of the Kidneys, and a gathering of saline Particles, especially in the Blood.

§. 5. Cause.

HAVING done with the diagnosis, we will now proceed to the Cause. The old Galenists come in the first place, who hold, that an *Asthma* comes ofttest of all from a thick and viscid Phlegm, which sticks sometimes in the Passages of the *aspera arteria*, sometimes in the Lungs themselves, where that Phlegm comes from some where else, that is, from the Head, or is bred there. For they doubt not, but many superfluities of that sort may be bred in the Lungs, which Phlegm in a desperate Disease they think by means of Heat may be turned into a vitreous and clayie one, yea, and into Stones. They reckon also that this may afflict a Man, because of straitness of Breath, and its bad conformation; nor do they exclude Vapors ascending from below to the Lungs from breeding an *Asthma*.

§. 6.

Paracelsus his followers blame mineral Fumes lurking in the chaos, impregnated with the virtues of the Stars, drawn in by respirati-

on and infecting the Lungs; nor yet do they wholly neglect the Opinion of the Galenists, allowing that Phlegm may ly in the *bronchia*, which if it do, the Air cannot penetrate; whereupon the Patients grow out of breath; and then when Phlegm is dried in the Pipes, they think, that a perpetual Cough may be raised. As for external Causes, *Paracelsus* admits divers *de morb. metallor.* namely, external Heat and Cold, Frost, Rain, Clouds, Falling of Stars, sowre Potions, Acidity of Vitriol, of Alum, subterranean Air, saline, sulphureous, mineral, antimonial, arsenical and orpimental Fumes. In another place he does not deny, but a Tartar may be bred in the Lungs, and that thereby this Disease may be bred.

§. 7.

Helmont, who is above all pre-dicaments and predicables, after his usual manner, laughs at the Opinions of the foresaid Authors, who ascribe the original of this Disease to Phlegm falling on the Lungs, that is, in an imaginary Catarrh. He gathers it from hence, because an *Asthma* siezes one suddenly, just as if a Rope were tied about a Man's Neck; and then it goes off without voiding much Phlegm, and though sometimes a little be voided, that must not be ascribed to the occasional Cause, but rather to the effect, that is, to great coarctation, and injury offered to the Lungs. He also rejects their Opinion, who hold, that Steams and Vapors arising may cause an *Asthma*. And he calls it *the falling sickness of the Lungs*, because it has its seat in the diaphragm. He says, likewise, That the cause

cause of this Disease is a more peculiar Poyson, which affects the Lungs by its property, than that which casts the Head and the whole Man into an Epilepsie. He also, as we have said, makes a twofold *Asthma*, a Woman's, and one common to either Sex: For there arises a Poyson from the Womb, (whose life and power rules the whole Woman) which contracts the Throat, and straitens the Lobes and Pores of the Lungs. He also says, That an *Asthma* is either dry or moist; the dry, according to him, is usually interrupted, which nevertheless violently disturbs the whole Body, and compensates the interval by its grievousness: This *Asthma* has its seat in the Spleen, wherefore he calls asthmatick People splenetick. But in Women he will have it in the Womb, whence that Sex is truly miserable, for he (and I also) hath seen Women, who by smelling sweet Scents, besides Head-aches and danger of Swooning, have fallen into extreme difficulty of breathing. For the *Archæus* either of the Spleen or the Womb primarily affects the innate Spirit of the Lungs by the action of Regiment, whereby an *Asthma*, like an Epilepsie, is bred; wherefore he calls it *the Epilepsie of the Lungs*, because this Disease agrees with an Epilepsie. And he concludes as much *à posteriori*, namely from the *juvantia*: for whatever cures an Epilepsie, cures an *Asthma*. He maintains also, That an *Asthma* has its seat in the Stomach; and he endeavours to prove it, because sometimes by giving but one Vomit, the Disease is perfectly cured, and because it proceeds from the corruption of certain Meats. He derives a moist *Asthma* from abundance of

Matter, which is occasioned by some fault in the Lungs themselves, and it generally troubles old Men, and such as are near death, and consumptive People. Afterwards it breeds mucilaginous stuff, either, because of an occult Imposthume, or some other Injury done to the Lungs. About which, if you would have more, you may consult the Author himself, *de Asthmate & Tussi*. But lest we should be too tedious in hearing *Helmont*, we will bestow a little time upon the famous

§. 8.

Ullis, who calls this Disease the King of the rest of the Diseases of the Breast; for this reason, because there is nothing more terrible than the Fits of this Disease. For Patients are shaken by it, as by an earthquake, because respiration, by which we live, is hindered, and sometimes quite abolished, which must cause death. And as for the cause, he, as well as *Helmont*, rejects Vapors ascending from the Spleen, Womb, Mesentery, Stomach and other Bowels to the Lungs; because no asthmatick Body ever falls into an *Asthma*, without some manifest fault in his Lungs, there being no fault in the foresaid Parts, nor any straitness of the *bronchia*, which People talk so much of. Therefore he assigns, as the only cause of an *Asthma*, the convulsions of the Motive Parts. For, according to him, a heterogeneous Matter, injurious to the Spirits, falling out of the Brain in a little quantity, gets into the Coats of the Nerves without much harm; but if it amount to any quantity, and possess the nervous and muscular,

culous, pneumonick Fibres, serving for respiration, then it molests the inhabiting Spirits, and puts them into asthmatick Spasms. Nevertheless he denies not, but an *Asthma* may sometimes arise from straitness and obstruction of the *bronchia* by a thick and viscid Humor, purulent Matter, extravasated Blood, Swellings, *scirrhus*, or Stones, &c. Among occasional causes, he reckons all things which cause the Mass of Blood to ferment, as all violent Motions both of Mind and Body, immoderate *Venus*, anger, heat of the Bed, &c. For he often observed (as I did in the foresaid case) that asthmatick Persons are always worst in Bed.

§. 9.

Sylvius in an *asthma*, *orthopnoea* and *dyspnœa* blames bad Vapors and Wind, chiefly austere ones, produced in the *intestinum tenue* of Phlegm, rarefied by Bile, arising partly by the Stomach and *œsophagus* to the Mouth, and then drawn in with the Air into the *bronchia* of the Lungs, and passing partly by the lacteal Vessels and thoracick Duct, then these fill and straiten the soft Lobes of the Lungs, and so hinder respiration. Nor in an *Asthma*, especially an *orthopnoea*, does he exclude viscid Phlegm, falling from the Head into the *bronchia* and straitening them.

§. 10.

NOW let us see what the famous *Cartes* and his followers, *Regius*, *le Grand*, *Hogeland*, *Bræchusius*, &c. say. But before we come to the faults of respiration, it will be worth the while first to con-

der the true cause of the Motion of the Lungs, according to their mind, that we may the more easily know the defect of their Motion. Therefore, to explicate the action of respiration, the *Cartesians* suppose a subtle æthereal Matter; and they will have the Air only by its forcing forward from the Breast and *Abdomen* to raise Motion in the Lungs, and so to display them. Then, they say, the Motion of the circulating Blood is continual, which must necessarily be attended by a Motion of the animal Spirits, which Spirits by the Nerves do pass and traverse all the intercostal Muscles, the Muscles of the diaphragm, &c. Nor need any one wonder, that by the opening of one Pore in the Brain the Spirits flow into many Muscles, because the Tubes of the Nerves contain many Fibres under one and the same Membrane. The Muscles therefore according to them, are puffed up or contracted in their whole substance; wherefore it so comes to pass, when a large space is allowed to the Breast, that to avoid a *vacuum*, the external Air in some quantity is always driven inward, till the antagonist Muscles of those other, which are allotted to expiration, receive the Motion of the Spirits; and so the Muscles serving for inspiration, like Sails for want of Wind, flag, when the Muscles designed for expiration are contracted by the Spirits that went out of the former, and entered the latter. And *Bræchhausen* in *œconomia animali*, p. 175. believes, that inspiration and expiration is so performed, by the animal Spirits, which are then become total, that the Muscles, while the animal life lasts, are continually puffed up, according to the various mixture and motion

tion of the Blood. Whatever things therefore can keep out the Air, may cause an *Asthma* or *Orthopnoea*: And we gather as much from this, That if Blood flow out of the Branches of the jugular Veins into these Parts, that afford a Passage to the Air, that is, the Muscles of the Jaws, and if it be detained there, as one may see in a Quinsy, a great difficulty of breathing arises thence; and if any such thing befall an Artery, there arises an *Asthma*. Thus it is collected from the Cartesian hypothesis, that this Disease has its rise from the substance of the Lungs and of the Intercostal Muscles, which serve for respiration being hurt, that is, from the Nerves, designed for the intercostal Muscles and other Organs of respiration, being obstructed, as it happens in a Scurvy and Apoplexy, which are always attended with an *Asthma* or *Orthopnoea*. For in these respiration, is so hindered and abolished, that the original of the Nerves being either exactly, or in some measure obstructed, either few or no animal Spirits are sent by the recurrent Nerves into the Muscles, which are designed for elevation of the Breast, and by this means the elevation of the Breast ceasing, respiration it self also either ceases, or is diminished. So a great deal of Pus, because it fills up the cavity of the Breast, causes a straitness: for the Muscles, because of the incumbent weight, cannot do their office, and so a due expansion of the Lungs cannot be made.

§. II.

THIS was the Cartesian Opinion, now we will give you our own. First of all, however, we shall in general premise something concerning respiration. We think therefore that the Air, when the Breast is dilated for inspiration, does enter the Lungs, and they must of necessity be coextended to the cavity of the Breast; and in expiration, since the space of the Breast cannot be lessened, but by contracting it self in again, the Air must of necessity also be forced by the Breast out of the folding Lungs. The Lungs therefore are moved, not, as some would have them, by their own proper virtue, nor by the Heart, nor for fear of a vacuum; but the Air is the true and adequate cause of respiration, especially on the confines of the Globe of the Earth, where the Air has acquired a certain consistence and density. I could add several things about the elasticity and weight of the Air, and its Motion resulting from thence, to explain the obscurity of respiration; but since these excellent Persons, the magnificent *Ottó de Guericke* de vacua, the illustrious *Boyle* in *Experim. physie. mechan. de aëris vi elastica*, and *Majou* in his tract *de respiratione* have performed that task compleatly, I reckon it needless to treat curiously of all these things, and the rather, because it belongs more properly to a Philosophical enquiry. The motion of the Lungs and Heart is so necessary, that we cannot be without it a few Minutes of an Hour, but with hazard of our lives, which *Boyle's* Air-pump shows, in which, when the Air was exhausted,

sted, and not admitted again, Birds and Mice died within two, three, four, five, six or seven Minutes at most. We have hitherto been upon respiration in general with respect to the Air: if we consider it more particularly, the Heart moves by *systole* and *diastole*, and those Motions are helped by the dilatation and expansion of the Lungs. There was an erroneous Opinion of old, that the Motion of the Lungs and Diaphragm was performed in the manner of Bellows, and that they were filled, because they were distended, but this Opinion is built upon a rotten foundation. Without doubt there are several uses of respiration; the ventilation of the Blood, the exportation of fuliginous *effluvia*, the importation of nitrous Matter, the mincing and pounding of the Parts of the Blood, the pression of it into the Guts, the mixture of it in the Heart, the forwarding its Motion out of one Ventricle into the other, and the last perfection of the Blood by means of saline Particles in the Air, performed in the left Ventricle of the Heart, which subtilise the Blood, and fit it for breeding of animal Spirits: for there are saline, volatil Particles in the Air, wherefore it is called the secret Food of Life. And we think it probable, That the Lungs in respiration are not only puffed up and distended by the pressure of the Atmosphere, but by the elastick virtue of the Air. For Air is apt to get in at any hole; yea, it is very difficult to keep it out of the Air-pump, as Boyle *de aere*, p. 196. shows. The Air by the Mouth and Nostrils rushing into the *aspera arteria* or *larynx*, insinuates it self into the Cavity of the

Lungs, and by the heat of the Part is much rarefied and dilated, which expansion being made, it exerts its elastick virtue, whereupon the Lungs are puffed up, and possess a greater space. And, if I be not mistaken, respiration seems to be nothing else, but the resolution and reciprocation of the Air enclosed in the Breast, and an alteration of the motion of the Lungs and Diaphragm, always however supposing a notable influx of the animal Spirits into the Intercoastal Muscles. There is no reason to the contrary, therefore, why we may not call the external Air the first original of the whole Motion: for Animals dy presently, when Air is denied them, as Boyle in his Physico-mechanical Experiments does sufficiently show. In short, two things are required for the performance of respiration naturally. 1. That a free Passage be granted to the ingress and egress of the Air by the pressure of the Atmosphere. 2. That the Air may be able by its elastick virtue duely to extend and expand the Lungs. As often therefore as these Passages are stopt, or the expansion of the Lungs is hindered by any cause, respiration is variously hurt or diminished. In an *Asthma* therefore (that once we may come to what we would be at) sometimes the *bronchia* or Vesicles of the Lungs are obstructed with viscid Phlegm, Pus, Tubercles, tophaceous Matter, Stones, &c. as Diemerbroeck in his Anatomy, p. 510. has illustrated by an observation of dust gathering by degrees in a Servant, which bred a Stone in the Vesicles of the Lungs, and so an *Asthma*, which killed him at last: there are other such instances in the German *Ephemerides*. We do not

not question also, but a pontick Salt in the Air falling upon the Throat, and so injuring the Vesicles of the Lungs, may produce this Disease. Sometimes also in a *dyspnœa* and *orthopnœa* the expansion of the Lungs is not hindered by want of Air that should pass to the Lungs, but through excessive rarefaction and ebullition of the Blood, sometimes by its stagnation, when it clots in the narrow Passages, sometimes by the convulsive irritation of the Nerves, which serve the Organs of respiration; and so we hold, an *Asthma* may arise. In some asthmatick Fits the Lungs being elevated and distended cause almost suffocation, which cannot come from Wind or Vapors: for Wind contained in the pulmonary Veins and Arteries cannot puff them up (since though you fit a Pipe to the pulmonary Artery, and blow in it, the Lungs swell not) nor can Vapors do it, since if they be contained in the Vesicles, they cannot easily be expelled with the Air. Wherefore, to come nearer the Point, we think that such Choakings proceed from the intercostal Muscles, and the Diaphragm being convulse. For by their convulsion the Breast is kept too long in dilatation. In another case also we see how in hypochondriack and scorbutick Persons, the want of respiration puts them in imminent hazard of their Lives; as we observed in a Woman who died of it, through the excessive coagulation of the Blood in her Lungs. So likewise this Disease may arise from a sharp, lixivious, fluid and too bilious Blood boiling up preternaturally in the Heart, so that the Lungs remain puff up, and respiration is stop't: for this vicious Blood sometimes rushes vio-

lently into the Lungs, compressing its *bronchia* and Vesicles, and distending the sanguiferous Vessels, so that the Lungs cannot be duly relaxed and expanded again for the recontraction of the Air. A moist *Asthma* (for we, as well as *Helmont*, hold there is a moist and a dry one) we derive from a viscid mucilage, lodged as well in the *bronchia* and Vesicles of the Lungs, as in the Stomach. Sometimes this Disease follows a little stagnation of the Blood in the *præcordia*: for we are verily perswaded, it may arise from a crude, viscid, acid and austere Blood, and a serous chyle; because sometimes the chyle being carried into the right Ventricle of the Heart, by reason of its crudity and viscosity does not well rarefy; but being apt to stagnate and settle in the Heart, it increases its oppression: To relieve which, there comes a frequent respiration, that when the Blood is pumped into the Lungs, it may be relieved. Compare *Willis de feb. cap. 2.* with *de scorbut. c. 3.* Hence we find that several hypochondriack Persons an hour or two after Meal, or after motion of their Body, are troubled with difficulty of breathing, inasmuch namely as a crude chyle is brought into the Blood. So an acid Humor, mixt with the Blood, by coagulating it more or less about the *præcordia*, and disturbing its equal circulation, must notoriously stop respiration, as the famous *Ettmuller* in his *chirurgia inferioria* proves, who says, that a friend of his poured Spirit of Nitre into the subclavian Vein of a Dog, which in a little time breathed with difficulty, and at length died, and there was coagulated and clotted Blood found in that Vein and in the

Heart

Heart. The foresaid Physician tried another Experiment to the same purpose; he put a Drachm of Oyl of Sulphur *per campanam* into an Ounce of Water, and better; he poured it into the crural Vein of a Dog; he tied up the Wound, as it ought to be, and let the Dog loose, which being brisk, his Eyes staring wide open and clear, laid him down, and began to draw his Breath faster and faster, till at length he had some small Convulsions in his Mouth, then he breathed faster, and had a rattling in his Breast, he had now and then a convulsion Fit, till at length he died within half an hour after the Infusion. After he was dead, abundance of serous Matter came out at his Mouth, red like the washing of Flesh, abundance of viscid froth swimming at the top. When the Jaws of this Dog were opened, they and the *aspera arteria* were full of froth. When the *larynx* was squeezed on the outside, the Lungs looked of a dark red, especially over against the Ribs, as if Blood had settled there after a Contusion, and the Lungs, like sponges, were full of a bloody and frothy serum, that is, of abundance of little viscid Bubbles, and all the Branches of the *aspera arteria*, great as well as small, were in a manner obstructed with this froth. I tried the like in a Dog. See the English Philosophical Transactions *Ann.* 1667. n. 27. And I opened a Citizen, who died of an *Asthma*, and could attribute his death to nothing but to Blood coagulated in the pneumonick Vessels and the Heart, just as *Majou* found the pulmonary Artery and Vein, full of grumous Blood, in a young Man, who was taken with shortness of breath upon any quick

Motion. And none, that knows any thing in Physick, will deny, That a dry and convulsive *Asthma* may arise from some fault in the Nerves and animal Spirits; for the pneumonick Nerves, designed for the expansion of the Lungs, being through irritation spasmodically contracted, may hinder the reciprocal Motion of the Lungs; as the nervous Fibres of the *bronchia* being irritated, may so contract them, that the *larynx* may be quite stopt, and so a Man may be strangled, because sufficient Air cannot be admitted, either to the Lungs or Blood. So the same Nerves denying a Passage to the animal Spirits upon what account soever; that is, if they be obstructed or broken, may be a Cause of this Disease: as *Schenckius* saw the Motion of the Lungs taken away by cutting the Nerves. In a convulsive *Asthma* there is rarely a Cough or Ejection of Excrements; it ceases also for a time, and returns periodically, according to the Motion of the Moon. *Ettmuller* observed an instance of it in his Chamber-fellow at *Paris*; and we, in an apoplectick Person, who, after he was recovered of that, had a Palsy in his right side. The expansion of the Lungs may be hindered from without the Breast, when the Diaphragm has not room to play downwards, which happens usually when the *hypochondria*, Stomach or whole *abdomen* is distended with Wind or Water, or when there are spasmodick contractions in the Mesentery, for then the peristaltick Motion being inverted, the Diaphragm is forced towards the cavity of the Breast; so we see it is in the Dropsy, Tympany, Over-growth of the Liver, being with Child: for Women towards the latter end

of their time complain of shortness of Breath. Sometimes foul, malignant Fumes of Charcoal, Metals, Arsenick and Mercury (as in Chymists and Goldsmiths) may cause an *Asthma*. There is a wheezing in inspiration, because gross Humors stop the mouth of the Windpipe, so that the Air cannot get through without a whistling and a noise. One takes his Breath easiest with his Body upright, because the Bowels by their own weight are drawn downwards, and so room is made.

§. 12. *Prognostick.*

NOW follows the Prognostick. In general all hurts of respiration are dangerous. In hypochondriack and scorbutick Persons, they are not dangerous, nor incurable in themselves; yet because of the nobleness of the Place, and the coagulation of Blood in the Heart, they are not without danger; as not long since I saw a scorbutick Woman at *Hanover*, who not long ago, died only of a dry or convulsive *Asthma* in two hours time, with her Senses entire, and without any dangerous Symptom preceding. This Disease uses to come at certain times of the Moon, and Seasons of the Year, especially Winter and Autumn; and by using proper Remedies it may be kept off a long time. But a scorbutick *Asthma* is a chronical Disease. A serous, precordial *Asthma* is easier to cure than a paralytick one, which comes from a depauperated, spiritless Blood. A scorbutick *Asthma* easily turns to another Disease, namely an Apoplexy, suffocative Catarrh, Epilepsy, Consumption, Cachexy or Dropsy; as *Timaeus* l. 2: has observed. Moreover an *Asthma* is scarce

cured in old Men, in young Men often. This Disease is often acute, and the violence of the Fit often kills a Man; but the serenity of the Air, sobriety of life, and rest of Body (of which hereafter) abate its violence. They that have naturally a strait Breast and small Lungs, and those that have very large ones, are apt to be asthmatick. An *Asthma* with swooning, a languid, intermittent, unequal, disordered and slow Pulse, argues death to be near. A trembling Breath is also dangerous, and so much the more, if the shoulder-Blades, and intercostal Muscles rise and fall at the taking in and letting out of the Breath, especially if the strength is low.

§. 13. *Dietetick cure.*

THIS was the Prognostick. As to the cure, and first the dietetick, it now falls under contemplation. Among the Non-natural things, the *Air* is the first, which must be temperate, serene and dry, but not very hot; yet cold must be industriously avoided; for through the connivance of the Pores the Body exhales not, and the condensed Humors are difficultly got out at the usual Emunctories, and so injure the Lungs and their vesicles. An over-hot Air is hurtful also, inasmuch as the turgescient Blood, like new Wine, throws abundance of serum upon the Lungs and Branches of the *aspera arteria*, and infects the whole Mass of Blood: for what such the Air is, such generally is the Mass of Blood. Let sweet Scents be avoided, by Women especially, for the Womb is enraged thereby.

The Meat must be easie of Concoction, heating and attenuating,
R left

est the Matter grow thick; it must be mixt with moistners; Hens and Chickens are good. All a Man's meat must be seasoned with pectoral Aromatics, namely, Marjoram, Thyme, Hyssop, Fenil, Aniseed, &c. Saffron is good here, whatever *Septalius* says to the contrary; so are Almonds, Raisins, Figs, &c. inasmuch as they smoothe. On the contrary, let the Patient forbear all things that breed a thick and tough Juice, such as Flesh dried in the Smoak, Pork, Milk, Cheese, dry Pulse, &c. As for the Drink it must be a fine and small Wine; or one made of several pectoral Herbs and Spices. For Rusticks a decoction of Horse-dung may serve in Summer-time, or of Barly. Sweet drink made with Sugar must be forborn, and Spanih Wine, by preposterous using of which *Helmont tract. de asthma & tussi*, §. 10. observed an Asthma produced.

As to Exercise, it must be small; yet a little walk before Meal may be allowed; and in weak People Frictions of the out Parts may serve instead of it.

Sleep must be moderate and in the Night, sleeping in the Day and a long time must be avoided: for by long sleep many phlegmatick Excrements are gathered, which often cause our Disease. So Watching over-long, according to the great *Hippocrates*, 2. aph. 3. may mischief the Lungs.

The Belly must be kept continually loose, to avoid irritation. Hitherto also belong all usual evacuations, especially of Blood which ought to keep their ordinary course.

We may add to these the Passions of the Mind, which must be moderate. One would think that Joy

should do good; but one may easily gather from what has been said, That excessive Care and Anger, as well as excessive Motion and Watching, cause an Asthma. For *Helmont* writes, That this Disease may arise from Anger, sad Tidings and and Chiding; for this reason further, that the Pores of the Lungs are obstructed by Anger, Fear, &c. and through that Obstruction they are irritated, and enraged by their innate Ferment, and so cause this Disease.

§. 14. Pharmaceutick Cure.

But beside these helps, we must go to stronger Remedies, and they are Pharmaceutick. The Ancients in the cure of this Disease, for correcting and carrying off viscid Phlegm, first give this or some such Clyster;

Take of root of Birthwort, Iris each half an Ounce, Leaves of lesser Centaury, Hyssop, Calamint each one handful, white Agarick five Drachms, boil them, add to a Pint of the Colature of species *hieræ diacolocynthidos* one Drachm and an half, *diaturbith cum rhabarbaro* five Drachms, Oyl of white Lilies, Chamomil, Rue each one Ounce, common Salt a Drachm. Mix them. Make a Clyster.

Then, when the Disease gives truce, they render the peccant Humors which oppress the Lungs, and fill the *aspera arteria*, obedient to Nature, by Preparatives and Incisers. Their Preparers are Honey of Roses, *Oxymel* simple and compound,

pound, of Squills, Vinegar of Squills, Decoctions of Elecampane-root, Dodder of Thyme, Liquorice, Maiden-hair, Hyssop, Horehound, Scabious, Eetony, Raisins, Figs, Dates, *Guajacum*, distilled Waters of the same Herbs, Myrrh, Gums, &c. Here is a Receipt or two;

Take of Syrup of Liquorice half an Ounce, *Oxymel* of Squills one Ounce and an half, *loboch* of Fox Lungs six Drachms, Gum Ammoniack dissolved one Drachm. Mix them. Make a lick. Or,

Take of root of Elecampane, Gentian, Fox-Lungs each two Drachms, *species diatreos* four Scruples, Honey of Squills what is sufficient. Mix them. Make a lick. Or,

Take of Flour of Sulphur one Ounce, Benzoin one Drachm, Myrrh half a Drachm. Mix them. Make a fine Powder. Give a Scruple of it in a reer Egg, with a little common Salt.

Afterwards they endeavour to carry off the Humors so corrected and prepared, by gentle Purgers. Their Purgers are Trochiscs of Agarick, *diatribith cum rhabarbato*, *pilule aloëphangina*, &c. Here is a receipt;

Take of Mass of Pill *Cochia* one Scruple, of Agarick two Scruples, the best Rhubarb half a Scruple. Make Pills with Syrup of Liquorice. Or,

Take of *diaphenicon*, *cassia* new drawn each half an Ounce, Trochiscs of Agarick one Scruple. Mix them, and with Sugar

make a *Bolus* for once taking.

The Ancients also hold, That Vomits are good in an *Asthma*, because sometimes Phlegm is lodged in the Stomach: therefore they give a Vomit of Radish root and white Hellebore, and that to good purpose: But they would have Men forbear both these and Purgatives in the time of the Fit; lest the Matter being disturbed by Medicine should all run into the Lungs. Then they endeavour to divert the peccant Matter by Frictions, Errhines, Sternutatories, Apophlegmatisms and Cupping-glasses: At length they give things to mollifie and raise the Matter lodged in the Lungs, by the *aspera arteria*; in the number of which are things that promote Spittle, and strengthen the Breast and Lungs; such as Syrup of Liquorice, Jujubs, Hyssop, *loboch sanum*, *de pul. one vulpis*, Squills, *Millepedes*, Decoctions of Figs, Raisins, Hyssop, Liquorice, Honey, &c. Saffron. An Oyntment may be made for the whole Breast, of Oyl of Linseed, sweet Almonds, Dill, Rue, white Lilies, Chamomil, fresh Butter, Hens-grase, Mucilage of Fenu-greek, Marsh-mallows, Saffron and *Iris* root. Divers Receipts of which you may find among Practitioners:

§. 15.

WE have hitherto been taking a view of the Schools of the Galenists, we will now go to the Furnaces of the *Chymists*. Who, according to their Master, insist upon a double Cure, and a double Indication. For if Patients bring up Phlegm, they dry; if not, they loosen. Their Cure is with Sulphur vive, Myrrh and *aliptramuscata*.

cata. As to the second Indication, *Paracelsus* advises to abstain from cold things in purging the Lungs, because such things are hurtful to the Lungs. He loosens what is dry, that it may the more easily be brought up, by *Elixir de tartaro crudo, essentia vini essati, i. e. sublimati*, Bawm-Wine, &c. In the Asthma of Miners *Paracelsus* prescribes several Medicines, as well preservative as curative. He highly extols Diaphoreticks, and the following receipt;

Take of Liquor of Tartar two Ounces, Oyl of *Colcothar* one Scruple, pure *Laudanum* half a Scruple. Mix them. The Dose three Grains once in a Month.

He commends *Manna Calabrina perlata*. He says, That Water of Sow-bread is a secret, which cures any Asthma without putrefaction. He commends Conserve of Roses, and *sal vitrioli dulce*, which rectifies the Lungs. Some of his Tribe commend Balsam of Sulphur, simple and with Turpentine, Flowers of Sulphur, &c.

§. 16.

Helmont holds, that an Asthma cannot be cured by any Remedy, unless it penetrate throwly, so as to conquer an Epilepsie. Therefore, according to him, generous strengthening Medicines are good for a moist Asthma, in regard both of the Lungs and their *archæus*. And all Antiepilepticks are good for an Asthma. So *Grembs, Helmont's* disciple, mentions one *l. 2. c. 1. §. 9. de pulm. defect.* who was perfectly cured of the Epilepsie of the Lungs, that is, of an Asthma, by taking se-

ven Grains of Cinnabar of Antimony once a day for a Month. He also commends *balsamus sulphuris terebinthinatus* taken thrice a day in asthmatick Water, also Flowers of Sulphur sublimed with Saffron and Myrrh, and other things.

§. 17.

Ullis in an Asthma endeavours two things; That in the Fit the Patient may be freed from present danger; and that the morbidick Cause may be removed, so as the Fit may not come so often. Therefore while the Fit lasts, the Patient must sit with his Body upright; and all endeavours must be used, that the Lungs and *aspera arteria* may not be stufed with gross Matter, or oppressed internally or externally. And that the Bowels may not press the Diaphragm upwards, and so straiten the *præcordia*, it will be convenient to give a Clyster. Also lest the Blood should ferment too much in the pneumonick Vessels, or lest the serum should fall too violently upon the tracheal Ducts, all impetuosity must presently be stopt, Blood must be let, and such things must be given as evacuate the serum and superfluities of the raging Blood, by Sweat and Urine, from the Lungs. Here is a receipt;

Take of Water of Ground-Ivy six Ounces, *lobach sanum* one Ounce and an half, Water of Self-heal two Ounces, *sal prunella* one Drachm, Syrup of red Poppies one Ounce and an half. Mix them. Make a Julep.

He also commends six drops of Tincture of Sulphur given Morning

ing and Evening in the foresaid Julep; or the following Powder;

Take of *facula ari*, *bryonia* each one Drachm and an half, Flowers of Sulphur one Drachm, *benzoin* half a Drachm, Sugar-Candy half an Ounce, Powder of Liquorice two Drachms. Mix them. Make a Powder. Give half a Drachm twice or thrice a day.

But where a Man finds abundance of viscid and tough Matter, he advises this following;

Take of *aqua asthmatica* one Ounce and an half, Syrup of Horehound, Garlick, Tabaco each half an Ounce, Tincture of Saffron, Castor each half a Drachm. Mix them. Let the Patient take a spoonful or two of this mixture.
Or,

Take of Water of Snails, Worms each two Ounces, Syrup of Horehound, *Oxymel* of Squills, Spirit of Sal Ammoniack, with Gum Ammoniack two Drachms. Mix them. Or, for the Poor;

Take of Powder of Hedge-mustard or ground-Ivy one Ounce. Mix them with a sufficient quantity of *Oxymel*, for a *Linctus*.

This was the first Indication. The next was, That the motive Parts of respiration might be freed from Spasms. For which end he advises to have recourse to antispasmodick, antihysterick and anodine Medicines, as to the last refuge; such as Tincture of Castor, Amber, Spirit of Harts-horn, Soot, sal Ammoniack Volatil, Tincture of Sulphur, *asa fetida*, *Oxymel* of Squills; and un-

less there be a great stuffing of the Lungs, and oppression of the *præcordia*, Opiates will be admirable good, inasmuch as they reduce the enrag'd animal Spirits into order: wherefore the Author has often given *diacodium* and *laudanum tartarifatum* with good success. And in the Fit, that he may divert the Matter to another place, he advises Blisters, Cuppings, Frictions, painful Ligatures, yea, and Vomits in the very Fit. Now what he does out of the Fit, consists, 1. In amending the conformation of the Lungs. 2. In removing the disorders of the Spirits, which are designed for the Lungs. He uses the following Remedies;

Take of Gum Ammoniack and *Bdelium* dissolved in Vinegar of Squills half an Ounce, Flowers of Sulphur two Drachms, *Benzoin* one Drachm. Mix them. Make small Pills. Take four or five of them in the Evening.
Or,

Take of prepared *Millepedes* two Drachms, Flowers of *Benzoin*, Salt of Amber each two Scruples, extract of Elecampane, Castor each half a Scruple, Saffron one Scruple, Turpentine what is sufficient. Mix them. Make Pills. Take four every Evening and Morning. Or,

Take of water of *Loboch Sanum*, Snails, Worms each one Ounce, *Elixir Pectorale*, Spirit of Gum Ammoniack distilled with Sal Ammoniack each two Drachms, Tincture of Saffron one Drachm and an half, *Oxymel* of Squills six Drachms. Mix, and take it by Spoonfuls. Or,

Take of Tincture of Gum Ammoniack, Sulphur each two Drachms. Mix them. Give ten Grains or more at once.

He also highly values Syrup of Elecampane described by *Horatius Augenius*, which I shall here set down;

Take of Root of Elecampane, Polypody each two Ounces, Currans one Drachm and an half, *Sebestan*, Coltsfoot, Lungwort, Savory, Calamint, each one handful, one Leaf of Tabaco, scraped Liquorice two Drachms, Seed of Nettles, Coton each half a Drachm. Boyl them in small Mead to a pint and an half, and with as much Sugar make a Syrup. Give a Spoonful of it Morning and Evening in form of a *Linctus*, or mixt with other things. Or,

Take of powder of Crabs Eyes one Drachm and an half, volatril Salt of Amber half a Scruple, *species diaireos simplex* two Drachms, *Sperma Ceti* half a Drachm. Mix them. Make a powder for several times taking in Broth or some other proper Vehicle.

Beside the things aforesaid he questions not, but Purging, Bleeding and Blisters raised on the inside of the Arms near the Armpits sometimes do good.

§. 18.

Solbius advises first of all to remove the Obstruction, if there be any, in the Nose. Jaws, and Larynx; and then to Cure the Shortness of Breath (which is caused by the heat and rarefaction of

the Blood) by Bleeding and giving temperate Acids, as Salt Nitre, *Lapis Prunelle*, &c. So the straitness of the *aspera arteria* will be cured by removing the cause of that straitness, whether it be any viscid Humour, Apostem, grumous Blood, or thick Pus, which causes it. Therefore all inciding Medicines are good, for which end he allows of Vomits: But he excepts spitting of Blood, in which a Vomit is always dangerous. He will have difficulty of Breathing, if it comes from Vapors produced by Phlegm and Bile in the *intestinum tenue*, to be cured by amending the viscid Phlegm and evacuating it, and also by correcting or evacuating the Bile. If it abound, here is a receipt of the Authors.

Take of Gum Ammoniack dissolved in Vinegar half a Drachm, choice Mastich one Scruple, Trochisces of *Albandal*, resin of Scammony each twenty five Grains, volatril Salt of Amber five Grains, Oyl of Myrrh two drops. Mix them. Make thirty Pills. Let the Patient take five or six in the Morning fasting, and drink some Broth an hour after. Or,

Take of root of Elecampane half an Ounce, Galangal two Drachms, Polypody of the Oak half an Ounce, leaves of *carduus benedictus*, Lungwort, lesser Centaury, white Horehound, Spleenwort each one handful, Leaves of *senna* one Ounce and an half, Trochisces of Agarick one Drachm and an half, black Hellebore half a Drachm, Aniseeds, prepared *millepedes* two Drachms, crude Tartar half an Ounce, Ginger one Drachm and an half. Cut them for a Bag. Put it into three Pints of Wine. All

All Carminatives, Diaphoreticks, Aromaticks, Bechicks, &c. are good, According to him, if phlegm fall from the head on the Lungs, to cut and evacuate the Phlegm that is gathered, he advises Aromaticks and Phlegmagogues, also Er-rhines and Masticatories, whereby he may evacuate thick Phlegm by the Mouth and Nostrils.

§. 19.

Curtis and his Followers commend all such things as remove Obstructions of the Vessels and Lungs, and which regulate the disorderly Motion of the animal Spirits. Among which things, Aromaticks and volatil oyley things do excel: for by the volatility that is in them, they are able to remove the visciditv and obstruction of the Lungs. They prefer *tinctura bezo-artica*, *aqua theriacalis camphorata*, *sal volatile oleosum Sylvii*, *diaphoreticum Cranii*, and all manner of volatil Salts: for instance;

Take of Water of Cinnamon one Ounce, *aqua asthmatica*, *loboch sanum* each six Drachms. *elixir pectorale* one Drachm, Essence of Elecampane half a Drachm, volatil Spirit of sal Ammoniack twenty drops, Syrup of Hedge-Mustard one Ounce. Mix them.

According to their Indication, Decoctions of the Woods will be proper, which consist of hard Particles. In the fit they extol *Sperma ceti* given from a Scruple to a Drachm in some warm Beer or Broth. If this Disease arise from Pus, it may be cured by evacuating the bad Matter. Concerning

which see the next Chapter of an *Empyema*.

§. 20.

Since we have seen other Mens Opinions, we must now give our own. We therefore endeavour, 1. In the Fit to ease the difficulty of breathing and to free the Patient from present danger of death. 2. To find out and extirpate the morbifick cause, as far as we are able, that the Fit may not return. The first we call Curatory; the latter Preservatory. And since this intercepted Motion of Breathing does often sieze scorbutick and hypochondriack Persons, we must therefore have regard to the Scurvy and Melancholy. We therefore, with *Willis* and *Helmont*, make a two fold Asthma; a moist or serous, and a dry or convulsive. Now lest the Heart should be stifled by a serous Asthma, whether it come from an ebullition of scorbutick serum, or from a sudden coagulation of grumescient Blood in the narrow Passages of the Lungs, or in the Heart, presently Medicines must be given, which attenuate and restore the circulation to the Blood, when for thickness it stagnates in the narrow Passages of the Lungs, (whether it be caused by an Acid, or a fixt Salt, or poysonous Mercury.) In this case therefore we bleed without delay: for when the quantity is lessened, what remains may the more easily pass the pneumonick Vessels; and so a liberty of breathing will be restored. To dissolve these coagulations of Blood, generally caused by an Acid, all volatil, aromatick, oyley, spirituous, balsamick volatil, cutting, precipitating things, &c. are good. I

This moist *Asthma* have its rise from a viscid mucilage lodged in the *bronchia* of the Lungs, and in the Stomach, all hot Thoracicks mixt with Antiscorbuticks are proper, such as are all spirituous, balsamick, volatil, cutting things, and such as correct Acidity. Among which we have observed these to be particularly good, Spirit of Gum Ammoniack, made with Sal Ammoniack, volatil Salt of Amber, Harts-horn, Soot, Mans-Blood, Sows, Ants, *balsamus sulphuris anisatus*, & *spiritus asthmaticus Michaelis*, which is made of Nitre, Sulphur, Gum Ammoniack, &c. Some in this case use volatil oylly Salts. Here follows *sal volatile oleosum nostrum*;

Take of Tincture of Sulphur one pound, Salt of Tartar half a pound. Let them stand together on a Tile several hours, till the Mass be heaved up no more, but sink and look of a liver Colour, then pour the Mass upon a wet Board, and powder it. Pour upon it a measure and an half of Spirit of generous Wine. When it has stood a Night, and the Tincture looks high coloured, add of red Myrrh one Ounce and an half, root of Angelica two Ounces, Saffron half an Ounce, Treacle four Ounces, Mummy three Drachms, Cinnamon one Ounce, Camphore two Drachms, volatil Salt of Harts-horn half an Ounce, Oyl of Amber, Aniseed each five Drachms. Let them stand mixt for a time in a Vessel well stoppt, then decant it. The Dose is from five drops to ten and more.

Here are other Receipts for a moist *Asthma*;

Take of *aqua asthmatica*, *loboch sanum* each one Ounce and an half, Spirit of Gum Ammoniack one Drachm, volatil Salt of Amber, *sal volatile oleosum pectorale nostrum* each half a Scruple, Essence of Elecampane one Scruple, Syrup of Cinnamon one Ounce. Mix them, for several times taking.

The following mixture cured an Illustrious Prince of asthmatick Fits successfully.

Take of *aqua asthmatica* one Ounce, Water of Hyssop one Ounce and an half, Coltsfoot, Ladies-Thistle each two Ounces, Speedwell drawn from the Juice one Ounce, Syrup of Jujubs one Ounce, *Tinctur. propr.* three Drachms. Mix them.

For we must observe in an *Asthma* always to change and alter our Medicines, as *Septalius p. 160. §. 149.* has taken notice. Because it is a Disease, that cannot be cured violently and on a sudden, but by continual and frequent taking: for the obstructions ly in the Tubes of the respiratory Nerves; and these Tubes are very narrow and so open slowly; and the Lungs are a tender Part, and cannot endure much violence. Here follows a Receipt;

Take of *Sperma ceti* one Drachm, Flowers of *benzoin* half a Drachm, Myrrh, volatil Salt of Amber each half a Scruple. Mix them for four Doses. Or,

Take of *millepedes* Wine four Ounces, Syrup of Horehound, Hyssop each two Ounces, Essence of Elecampane three Drachms. Mix them. But

But if an *Asthma* come from stuffing of the Lungs with a thick, viscid Matter, this following will be proper for nice People, giving a Vomit or Purge first.

Take of Juice of Radish, Hedge-Mustard, Tabaco each half an Ounce, extract of Saffron half a Drachm, Water of Mint, Hyssop each one Ounce. Mix and give it by spoonfuls.

This of *Brunnerus* is a good asthmatick Potion ;

Take of Gum-Ammoniack half a Scruple, Water of Hyssop four Ounces, white Rhenish Wine three Ounces. Dissolve them over the fire according to Art. Add of Syrup of Horehound half an Ounce. Mix them.

This mixture, which was much used by the late Prince of Orange, is worth the observation ;

Take of *aqua carbunculi* two Ounces, *mel scilliticum* one Ounce. Mix them. Take a spoonful at once.

This that follows of *Helfricus Junckius* in his *Medicus presenti temporis accommodandus* will be excellent in an *Asthma*, that comes from an astringent acid ;

Take of *aqua carminativa Dorneri*, *veronica essentificata* each one Ounce and an half, *asthmatica* one Ounce, Essence of St. John's-wort one Drachm, volatil Salt of Man's Blood half a Drachm, Rue one Drachm, *theriaca caelestis* three Grains, *confectio alkermetis* half a Drachm, Syrup of red

Poppy what is sufficient. Mix them. Or,

Take of *aqua asthmatica Rudolphi* two Ounces, Water of Rape Flowers one Ounce and an half, *Oxymel* of Squills two Ounces, Spirit of Gum Ammoniack with Vitriol one Drachm. Mix them.

Difficulty of breathing, which continually afflicts hypochondriack and scorbutick Persons, and depends upon an over crude and viscid and a dispirited Blood or Chyle, will be cured when the original Disease is cured : regard therefore must be had to it. The case is the same, if this Disease proceed from excessive fatness or corpulence, as I have often observed : for when the corpulence is abated the *Asthma* ceases, in which case we may very well use Vinegar of Squills. We observe the same in Women with Child, and such as are troubled with Tympanies and Wind, when they are well of the principal Disease, the *Asthma's* cured. If it came from the Bellies being full of Wind, and thereby pressing the Diaphragm, it will easily be cured by carminative Clysters, and by taking carminative things inwardly. Here is a receipt ;

Take of Water of Mint, Zedoary each one Ounce and an half, Spirit of Citron Rind, *bals. emb. yan.* each half an Ounce. Mix, and give it by spoonfuls.

In this case also these things are proper ; *spiritus carminativus Sylvii*, *essentia carminativa wedelii*, described in his *Opiologia*, *anticolicum Michaelis*, *spiritus nitri dulcis*, &c. Sometimes a great load of viscid Phlegm

Phlegm lies in the Stomach, oftentimes attended by inflation of the Stomach and Guts, Spasms of the nervous Fibres, and by consequent an *Asthma*; which viscous Matter must be dislodged by a Vomit, whereby *Timæus l. 3. c. 13.* when he had tried other things to no purpose, cured an old Man, giving him *aqua benedicta Rulandi* at times, which voided a great quantity of Phlegm upwards and downwards. In a præcordial *Asthma* I never found a better Medicine than Vomits carefully given: for the violent Concussion shakes out that which is got into the Nerves. Which appears from *Primrose de morb. pueror.* who presently cured Children of an *Asthma* by voiding this viscid Phlegm, which is usually lodged in the Stomach. Instead of Vomits, we give nice People Gum Ammoniack with a little Resin of Jalap. We also apply hot bags of paregorick and carminative Herbs boiled in Wine, to a windy Stomach; or *Emplastrum ex ladano Cratonis*, or *carminativum Sylvii* to a weak Stomach, or our stomachick mixture of Chocolate, Balsam of Cinnamon, Oyl of Nutmeg and Sack. Essence of Elecampane given in drink is admirable good; some commend Essence of Wormwood.

These things we have hitherto mentioned, are good for a moist *Asthma*; now we will briefly see what will be good for a dry or convulsive *Asthma*, or an Epilepsie of the Lungs. In which case Patients are miserable; partly because they are ill handled by unskilful Physicians; partly by reason the cause often lies in the very animal Spirits, which should flow to the Muscles of the Breast, but do not, and so the Breast can neither heave nor

fall. Here therefore all pectoral things are proper, which respect the coagulating acid Particles, which fight with the secret alkaline Part, and cause shortness of Breath; such are Antispasmodicks, Antiepilepticks, Balsamicks, and Medicines endued with sulphureous, saline, volatil Particles; or volatil Acids, which rectify a crude Acid, relieve the Spirits, and cherish the nervous Fibres. These excel, *Sperma ceti*, *millepedes*, Earth-worms, Beetles that live in Horse dung, Ants, of which divers volatil Salts, Spirits and Oyls may be made, very proper for this use. Here are receipts;

Take of Spirit of Worms, Beetles each one Drachm and an half, *Sperma ceti* dissolved one Drachm, Essence of Saffron half a Drachm. Mix them. Make an Essence. Give fifteen drops.

Or rather the following Antiepileptick. For *Helmont* holds, That whatever cures an epileptick, will cure an asthmatick Person;

Take of Amber prepared, Elk's-hoof prepared, native Cinnabar each half a Drachm, *millepedes* prepared one Scruple, Castor half a Scruple. Mix them. Make a Powder for three Doses, to be given in a proper Vehicle; namely, Linden-tree-Water.

All Cephalicks and Nervines are also good here; especially Medicines made of Castor and Cinnabar, Spirit of Soot, Sal Ammoniack, Hartshorn, Sage, Rosemary, Essence of Castor, Saffron, *specificum cephalicum Michaelis*, volatil Salt of Amber, Man's skull, Horn of an Elk, *rhinoceros*, &c. Also for correcting the saline

saline or acid Acrimony, which irritates the nervous kind, Precipitants and Absorbents mixt with the foresaid Antispasmodicks are good: for instance ;

Take of Crabs-eyes prepared half a Drachm, oriental Bezoar three Grains, *Sperma ceti*, prepared Amber each half a Scruple, Mix them. Make a Powder.

In a Fit also of this convulsive Disease we have often with admiration observed desired success from the use of Opiates, that is, a few Grains of *laudanum opiatum* dissolved in some convenient Water and given by spoonfuls. If half a Drachm of *Sperma ceti* with a little *laudanum* be added to *Brunnerus* his Potion, it often proves effectual. When an *Asthma* comes from an Itch or Gout driven in, volatill Diaphoreticks will be good to drive out again. But if there be heat and an ebullition of Humors (as in Fevers) more fixt and temperate things, which precipitate what is hurtful to the urinary Passages, are most proper, such as Crabs-eyes, *Antimonium diaphoreticum*, &c. Then

Nervines and Paregoricks may be outwardly applied to the Breast and Diaphragm, such as Oyl of Chamomil, Castor, Amber, Lavander, Oyntment of Marsh-Mallows, divers Greases and Cataplasms made of roasted Onions: for instance ;

Take of mucilage of Marsh-mallow, Linseed, Fenugreek drawn with Hyssop-Water one Ounce, Powder of Florentine *Iris* one Drachm and an half, Gum Ammoniack dissolved in Elecampane Wine two Drachms. With a sufficient quantity of Oyl of *Iris*, sweet Almonds and Wax make a Liniment.

The Breast may be anointed with spirituous, castorine Medicines, volatill Salts, &c. I have often burnt the Breast with *Moxa*, and had good success. Our *Moxa* made of Mugwort, is as good as that which comes from the *East-Indies*. We do not wholly neglect Scarifying, Bleeding, Blistring, Cupping, Friction, Pouring cold Water on, and several other things. For according to the Poet,

A cane non magno saepe tenetur aper.

CHAP. III.

Of a Pleurisy and Peripneumony, or Inflammation of the Lungs.

§. I.

BEfore we proceed, we must tell you, that we, as well as *Ballonius*, do comprehend these two Diseases under one name of *Pleuripneumony* or *Pneumopleurisy*; so that as it participates more of the nature of the one Disease than the other, it may be denominated accordingly. An Inflammation of the Lungs is called a *Peripneumony*, of the *Pleura* a *Pleurisy*: inasmuch as the Blood in its Fermentation discharges its viscous refuse, sometimes on the one part, sometimes on the other. *Helmont* aimed at as much in his *Tract de pleura furent.* p. 247. v. 27. where he says, that a *Pleurisy* differs from a *Peripneumony* neither in occasional Causes nor Remedies. Since therefore the *Idea* of them is one and the same, their explication should be the same: for they differ only in place. We therefore describe a *Pleuripneumony*, to be an *Inflammation of the Lungs on one or both*

sides, or of the Pleura, joyned with a great difficulty of Breathing, an acute Fever, a violent Cough, sometimes dry, sometimes with frothy Spittle, and frequently Bloody, with oppression in the Breast and about the Heart, depending generally upon too hot a Blood, which being stopt in its Motion, stagnates, at length evasates, turns sour, and vellicates the Fibres. There is also a *Phlegmatick Pleurisy*, of which sort I saw several this Winter. From the Definition it is evident, that every pain in the side may not be called a *Pleuripneumony*, but only that which follows an acute Disease, and is attended with the aforesaid Symptoms. For if the Inflammation lie in the outer Muscles, or if a violent pain be caused there by Wind, it is but a bastard Disease; because there is no Fever nor spitting of Blood: A pain indeed is felt in the region of the Breast, which is in some measure exasperated by touching; yet it is not so stable, but abates by applying things that disperse wind. And because precepts teach, but examples

examples delight; I will therefore give you a Case.

A Case.

A young Man of a Sanguineo-Choleric Complexion, being in good health, and given to feed heartily, and walk much (till then, without any inconvenience) walked out in the Month of March, in a cold Air, comes home weary, and drinks a good draught of cold Beer to quench his Thirst, and refresh him. He was taken with a shivering all his Body over; he goes to sleep, wakes four hours after, and feels an obscure pain under his left Pap, shooting towards the *Hypochondrium*. The next day the pain encreased and became pricking, a Cough and Fever afflicted him; at length he spit blood with a great decay of Strength and violent thirst; all which are signs of a Pneumopleurisy.

§. 2. Part affected.

AS to the part affected, Physicians generally place a Peripneumony in the Lungs, and a Pleurisy in the Membrane, *Pleura*; yet some deny, that the Lungs are a Part affected, because they are quite insensible. *Diocles* holds, that the Veins of the Lungs are here affected. *Crasistratus*, the Arteries. *Asclepiades*, the *Bronchia* of the Lungs. *Soranus*, the Lexicographer, the whole Body; but he holds, that the Lungs are the worst. We undoubtedly hold, that in this Case the Lungs, and especially their Membranes (for a pricking pain can be ascribed only to Membranes) that cloath both the Ribs and Lungs, to wit, some-

times only the *Pleura*, sometimes both the Membranes and Lungs are affected and inflamed; for the substance of the Lungs is very subject to Inflammation, because it is soft, spongy, rare and porous; wherefore the Pores may easily be obstructed, and erysipelaceous Inflammations may ensue, whence either a Pleuripneumony or a Pneumopleurisy arises. *Hippocrates* is of our judgement, who in several places, but especially *de loc. in homine*, text. 24. says expressly, that in a Peripneumony both sides are affected, but in a Pleurisy only one is hurt. Nor does *Demetrius Herophilus* differ from the said opinion, when he says *lib. 12. de passime*, that a Peripneumony is a swelling in the whole Body of the Lungs, and a Pleurisy only in part of them. *Bonetus* in *Anatomia pract.* 1. *Platerus*, *Celsus* and others prove it by dissections of dead Bodies, in which, they say, they do not always find the *Membrana costarum succingentes* inflamed, but the Lungs and their Membrane torn and corroded. We do not question also but there may be one about the intercostal Muscles. For we saw a young Man, who under his left Arm, about the intercostal Muscles, voided at times four pounds of purulent and serous, coagulated matter, whom we cured, and he is now living and in health. For that of *Hippocrates* is most certainly true *Secl. 5. aph. 8.* *Whoever are taken with a Pleurisy, and spit not well in fourteen days, they turn to suppuration.*

§. 3.

NOW we have seen the part affected in this Disease, we must go to the Diagnostick. Which gives us such Signs as show the Disease and its Causes; or distinguish this Disease from all others. This Disease is shown sometimes by a pricking pain, sometimes a dull one, sometimes accompanied with heat, and often encreased and exasperated by continual breathing: for the sudden encrease of pain causes Inflammation, therefore the place cannot endure to be touched. For if you press directly upon the intercostal Muscles, and irritate the Nervous Fibres, the pain is intolerable; because the evacuated Blood every hour acquires greater acrimony, whereby the Membranes are inflamed and vellicated, whence flows that exquisite pain. And a dull pain arises, when the Inflammation is in the fleshy substance of the Muscle, which because of its Nervous Fibres is in some measure sensible; yet so as to be in a far less degree than the former, and this pain also shoots sometimes to the *Hypochondrium*, sometimes to the Collar Bone. Sometimes it throbs and swells, that is, because the Muscles are Inflamed, and while it turns to suppuration, as in our foresaid Patient. There is a continual encreasing Fever in these Diseases, undoubtedly from the troubled mixtion of the Blood, especially when *pus* comes on, which Fever has a fit every other day, especially towards Evening; because at that time when the Sun goes down, the Pores of the Skin are shut, and transpiration being thereby hin-

dred, the effervescence of the Blood is greater, and by consequent the mixtion of it more troubled, caused chiefly by sharp or bilious particles lodged in the mass of Blood. There is difficulty of Breathing, because the Breast cannot commodiously be dilated, then inspiration is interrupted; wherefore it must needs be weaker. And since such respiration is not sufficient to temper the effervescent Blood, the smallness must be made up in frequency; therefore the Pulse is frequent and quick. The Pulse also in this Disease is soft, great, quick, unequal, intermitent, recurrent or beating double. The Cough is exceeding violent, inasmuch, that is, as evacuated Blood being grown sharp is able insensibly to enter the lax Lungs; but at the first indeed it is not in that quantity in the Lungs, that any great quantity can be spit up, because the heterogeneous matter is so intimately riveted into the Lungs, that it cannot come at the *Bronchia*, wherefore it is impossible, it should be coughed up: yet Blood is often spit up in a Pneumopleurisy. For the Blood being grown sharp, passes the open Pores of the Lungs; and as the afflux of Blood is greater or less, so more or less Blood is voided. In this Disease also Spittle of divers colours is raised; at first it is red and bloody; when it comes to maturity, it is purulent. If nothing be spit, it is bad. I have often seen *Pur* raised, without any avoiding of Blood first. The Cheeks are red, because sharp Particles of the Blood are sent thither. They are troubled with unquenchable thirst, because sharp Particles are sent to the Throat and Tongue, which makes

makes them dry, and by consequent such Patients must love moistening things. They generally ly on their backs, or sit up.

§. 4. Cause.

THESE things premised, we will proceed to the Causes. And according to the Ancients the immediate cause of this Disease is an Inflammation of the *Pleura* in the Pleurisy, and of the Lungs in the peripneumony. Their mediate cause is Blood, flowing out of the *vena cava*, through the *vena sine pari*, into the small Veins of the Ribs, or into the Membranes; as one may conclude from the red Spittle, Spring-time, Youth, and Manner of living, which breeds much Blood: Sometimes it is Phlegm, and then the Disease is of longer continuance, the Spittle is frothy and white, the Disease happens in Winter-time, the constitution of the Air and Clime is cold, and the course of Life breeds phlegmatick Blood. They say a Pleurisy differs from a Peripneumony, because the former comes from a subtil, bilious and bloody Cause; and the latter proceeds generally from a thick and phlegmatick Matter, running by the Veins and Arteries into the substance of the Lungs.

§. 5.

THE next thing is to see what the Chymists say. And they call the Cause of these Diseases, an Ogertine Salt, which is of an arsenical and orpimental property, by its Acrimony easily corroding the Blood-Vessels and Membranes, and so able to cause a Pleurisy. Hence they earnestly contend, That these

Diseases have their rise from a tartareous and mucilaginous oppilation. Paracelsus speaks something of this, but obscurely, c. 4. tract. 1. de morb. metall. where he says, a *pulmonia*, and resin is bred of the *Chaos*, in which the Star and Mine of Orpiment is decocted. But these things are so obscure, that we shall not waste any more time in them.

§. 6.

HELMONT in the rage of the *Pleuria* considers, first the internal mover or spur, and then the dilacerator of the *Pleura*. He considers it as Blood running thither, and as an Apostem arising from thence; and he brings an example of a place prickt with a Thorn. In his Opinion, therefore, the cause of a Pleurisy is a foreign Acidity, conceived in the *Archæus*, which is driven into the *vena azygos*, yea and into the adjoining flesh of the Ribs, and thereby a morbid Product, an Apostem, is created. For an acid Blood sometimes coagulates, contrary to the nature of the Veins and Flesh. He proves, That there is something of an acid in a Pleurisy; by this reason, namely, that in a Pleurisy the Urine and Blood turn thick as they come out, which grumescence and curdling is an argument of acidity. When this acid juice falls upon the intercostal Flesh, it causes a Pleuritick pain: but when it is dispersed by the infected *Archæus* into the *Vena Arteriosa* or the *Arteria Venosa*, it causes a Peripneumony. He is convinced by his own experience, that this Disease does sometimes reside in the Lungs.

§. 7.

§. 7.

THe famous *Willis* makes the the proximate cause of a Pleurisy to be bad Blood, by reason of its visciditv detained or extravasated in the lesser Vessels of the Membrane, called *Pleura*; and in a Peripneumony, in the greater pneumonick Vessels. Which being gathered there in abundance, causes an Inflammation. He derives the pricking and sharp Pain from the solution of continuity in a membranous and very sensible Part; difficulty of breathing, from the hurt of the muscular Fibres; and the Fever, from the excessive Effervescence of the Blood. Among the more remote Causes he reckons all such things as make the Blood to grow clammy and effervescent, and cause a febrile turgescence. Therefore sudden alterations of Heat and Cold may cause a pleuripneumony, and so may high drinking, and immoderate Exercise, inasmuch as these things disturb the Blood and encrease its Effervescence.

§. 8.

Sylvius, as most do, makes the immediate cause of these Diseases to be an Inflammation of the *Pleura* in a Pleurisy, and of the Lungs in a Peripneumony. And he holds, That the Blood is inflamed, when it runs out of its Vessels, and afterwards stagnates and coagulates: Whereupon the volatil and subtil Particles vanish, that used to temper the acid and saline ones, and so both growing sharper, struggle the more violently one against another; and because of the oily Parts in the Blood they cause a hot

effervescence, and by degrees do so corrupt the Blood, that it turns to Pus of divers colours; sometimes black, sometimes yellow, sometimes tinged with Blood, according to the variety of the corrupt Blood. But you may find more of this in our own Opinion: therefore we shall avoid repetitions.

§. 9.

THe Cartesians derive this Disease from a Matter that distends, pricks and corrodes the *pleura* or Lungs; which Matter is nothing else but the sharp, and volatil Particles of the Blood, that are extravasated. For if the Blood be over-much moved by remote causes, it is easily evasated, as too great Waves force the Water over the Banks: violent Motions therefore either of Mind or Body may produce these Diseases; Anger, Fear, immoderate Exercise of the Body, Riding, Dancing, Playing at Ball, &c. Sometimes the Blood is too spirituous, and of too rare a texture, and so is more fluid and runs quicker through the Body; and when its bilious, sharp and volatil Particles have got into the small Arteries, and by their Acrimony corroded them, or by their violent Motion burst them, they grow sharper, and being carried into the *Pleura* or Lungs, their figures do not agree with the Pores of the Parts, and so they stop, and cause one of these Diseases; sometimes a Blood, full of these vitious Particles, is poured into the intercostal Muscles; and then a difficulty of breathing and desire to Cough, arise, when the nervous Fibres of the Lungs or *bronchia* are irritated by the foresaid Particles. They ascribe the Fever

Fever also to the subtil Matter, acting upon these irregular Particles, and so causing Heat and Cold. For it is an argument, that the effervescence may be encreased by Pus or coagulated Blood, because it is so in Wounds or Swellings, when they tend to suppuration, though the place be far from the Heart.

§. 10.

BUt now we will give you our **B**ottom Opinion. And for better illustration of the Matter, we will premise something concerning the Blood. Now this fountain of life is contained in its Vessels, namely the Veins, Arteries and Muscular Fibres; it also consists of its Elements, as every one knows, which while they amicably concur one with another, and while the Blood circulates aright in the foresaid Vessels, the Body is kept in its vigor, because of the exact commixtion and agglutination of this vital Liquor for the nourishing of the Parts. But whereever the Blood is spilt in our Body, or stops, there it turns into a lowre Ferment. As long as the well constituted Blood is contained within its Vessels, so long the salubrious Actions of our Bodies last, the true signs of Health; but if the Blood, by Solution of Continuity, get out of its Vessels, then these pectoral Tragedies are acted. Nor do we here blame only the effusion and evasation of the Blood into the aforesaid Parts, but sometimes an over fluid and sharp serum. For there are no Humors, which when they are evasated in any Part, but will, if they tarry there long, acquire an Acidity; because they have then lost their Spirits. If therefore these acid Particles, strug-

ling with the sulphureous, and so causing an effervescence, predominate about the Lungs, they cause a peripneumony, and hence comes sometimes an Apostem and an Ulcer: If about the *Pleura* and Muscles of the Breast, they cause a Pleurisy. We hold, That the Thorn in the Membranes, is in these Diseases, an inept acidity of the Blood, fermenting with its volatill Salt, and disposing to a grumescence, and so some Vessel being obstructed, there follows a stagnation, coagulation and Inflammation. Therefore we say, That these concatenated Diseases are nothing else, but a præternatural fermentation of the Blood, poured out of its Receptacles; in which fermentation the sharp Particles do by their Points vellicate the membranaceous Parts, and being intimately fixt in the nervous Fibres, they make a concussion therein, which because it is continued to the origination of the Nerves, a sad Sensation cannot chuse but arise, which we call Pain. And it is various, pungent, rending, throbbing, dull, distending or corroding, &c. according to the Nature of the Part affected, its manner of being affected, and the Quality of the Spirits and concurrent Particles of the Blood. And so much for the immediate Cause.

And as for the remote Causes they are several. I have often seen these Diseases caused by hindrance of insensible transpiration: therefore a bad Air is generally the occasion of this Disease. Violent exercises are also Causes, inasmuch as they put the Blood into an over high Ferment, whereupon it is carried impetuously through the Arteries and Veins, and therefore may easily run out of its Vessels, especially

cially if it be suddenly stop't in its Motion; for then the Vessels are too far distended, and therefore are easily burst. Thus we see, That by drinking cold Drink, while the Body is hot, the Blood is apt to coagulate and stop in its Motion. All things may be Causes, which are apt to coagulate the Blood, especially in these small Vessels which are found in the intercostal Muscles, and the *Pleura* and pneumonick Vessels: for a little grumous Blood is able to stop these small Vessels; which when done, stagnation and distension follow, then a breach and inflammation. This is confirmed by our own experience in opening one that died of a Pleurisy, in whom we found above two Ounces of Blood in the Membrane *Pleura*, preternaturally thick and grumous. See *Bonnet's practical Anatomy*, *Ettmuller*, and other experienced Persons, who maintain what we say, by their Authority and Reason.

S. II. Prognostick.

HAVING considered the Etiology, we will now go to the Prognostick. That of *Hippocrates* is most certainly true, *Whoever, being sick of a Pleurisy, are not purged by Spittle in fourteen days, they turn to suppuration*; and suppuration is nothing else, but the turning of an inflamed Tumor into a purulent Ulcer, when the Acid, upon the deservescence of the Matter, begins to abound, the volatil and spirituous Particles flying away, and heterogeneous ones coming in their stead. A Pleurisy is generally held to be destructive to old Men, Women, and such as have had it twice or thrice before. A Pleurisy in which nothing, or but little is raised by spitting, or when

spitting quite ceases, while the Pain remains, is dangerous. Spittle all bloody or all yellow is an ill sign, and so is black; for it signifies a total corruption, being by reason of the Acid, of a corrosive Nature, and threatening a Gangrene. For all Spittle, the more exact it has the Humors mixt, and not distinguishable one from another, the worse it is, by the common consent of Authors. A small, frequent, hard and ferratil Pulse signifies death; for no pleuritick Person who had such a Pulse, was ever cured, when all things else were bad; otherwise we must not despair, as I have learned by frequent observation. Green Spittle also is bad, and so a viscid, frothy, and a little round Spittle, are of the same sort. But the strength must always be considered, and compared with the Disease. They that complain of a great oppression and straitness in this Disease are in danger: so are they, whose externals are cold, and their internals hot; and when noble Medicines will do no good, it is dangerous. Malignant Pleurisies are generally mortal. See *Ephem. German. An. 1. obs. 15*. When a Cough ceases, and a Hiccough comes, it portends ill, and so does a looseness and bleeding at the Nose. But otherwise a Pleurisy terminates, in a short time, like other acute Diseases, often on the seventh, sometimes on the eleventh or fourteenth day. If it exceed this time it turns to an *empyema*, a Consumption, or foul Ulcer under the Arm, as I my self observed. And they that are not cured in forty days, grow Consumptive. Sometimes the peccant Matter is received into the Vessels, and as it came by Fluxion, so it is again

gain diffused into the remaining Mass of Blood, and ends sometimes in the Hæmorrhoids, sometimes in the *Menses*, sometimes in a purulent Flux of the Belly, and sometimes in Urine; concerning which there is extant a most elegant Epistle of *Baubin*, published with *Wedelius* his *Scholium* in the German *ephemerides*, ann. 3. We have observed the like terminations. The *metastasis* of the Blood is most frequent, when it turns to *Pus*, and is voided by expectoration. There are hopes, if Spittle be raised in the beginning, and if it be of a laudable colour and consistence. If the Pain, Cough, and difficulty of Breathing abate, if the Pulse grow less hard, and every day greater, they are good signs. But since *Hippocrates*, *Sennertus* and others are copious on this Subject, I shall forbear to say more, lest I might be twitted with that of *Juvenal*;

*Nam quæcunque sedens modo legerat,
hæc eadem stans
Proferet, atque eadem cantabit ver-
sibus iisdem:
Occidit miseros crambe repetita ma-
gistros.*

§. 12. Dietetick Cure.

THESE things considered, we will proceed to the Cure, and first to the Dietetick. The Air therefore must be temperate, or rather enclining to heat. A cold Air is held very bad in this case: because it sends its acid pointed Particles through the Pores of the Body, which then associating themselves to the Blood coagulate it: for when the Air is entred, it shuts the Pores, stops the Circulation of the Blood, and obstructs the lesser

Blood-Vessels, whereupon the volatile Spirits fly into Air, and the rest that remain fight one with another, coagulate and turn to *Pus*. Whence it follows, That a North and East Air is very hurtful, because such an Air is a sworn enemy to the Membranes, and to all nervous Parts, according to that of *Hippocrates*, *Cold things are enemies to the Breast*. Sudden alterations of the Air, either from excessive heat to cold, or from violent cold to heat, may easily cause a Pleurisy. If the Air be infected, epidemical Pleurifies proceed from thence; whence it further follows, That the contagion has no fixt place in the Body. The strange force of this Infection is admirably set out by *Sylvius* in *oratione de Aere epidemico*, by *Hogelandus*, *Ettmullerus* in *disputatione de parvis mag. morb. principiis*, *Ten Rhyne* de *vet. med.* and others.

The Meat must be light and thin, such as Chicken-broth, Barly-cream, and Oatmeal-gruel. On the contrary, all salt, sharp, sowre, bitter and aromatised things must be forbidden. All Pulse is hurtful; and lentils are held by *Galen* and *Rhasis* to be specifically bad. Cold Meats also, are very bad, such as Mushromes, Cucumbers, Melons. Salads also and all Garden-fare are bad. For *Polybius* tells, how *Agron* King of Hungary, feeding too freely on such Cates, fell into a Pleurisy, which in a few days carried him off, l. 2. *hist.* The Drink must be some convenient Decoction made of root of Liquorice, *scorzonera*, Flowers of Poppy, and other pectoral things; or for the rustick Tribe, of Horse-dung, according to *Hellmont's* Experiment, because much alkali, which is good to imbibe the pleuritick Acid, is contained in

the Dung. Or an emulsion made of Almonds and the cold Seeds with water of Cichory, Borrage and red Poppy, &c. may be drunk for some days to allay the heat in the Breast. No Wine must be drunk, till the heat abate. *Hippocrates* and *Celsus* do allow a little of small White Wine; but upon my own experience it is best to let it alone: for by humoring our Patients we injure both them and our selves. *Brassavolus comment. in l. 1. Hipp. de ratione viſt. acut. l. 22.* says, That Wine in a Pleurisy is present Poyson, especially in the beginning. So cold drink is hurtful. *Hildanus* has an instance of a Pleurisy in both Sides, which came by drinking cold drink, *cent. 4. obs. 25.* *Helmont* is of the same opinion.

Best both of Body and Mind is good here: on the contrary too much Motion, because it moves the Blood too much, must be forborn. Swimming is very hurtful, concerning which see *Curtius* his History of *Alexander the Great*, c. 5.

Immoderate waking is as bad, partly by detaining the Humors, that should be dissipated (as *Hippocrates* s. 7. aph. 71. says) and partly by dissipating the Humors, that should be detained.

The Passions of the mind must be moderate, Anger must be forborn; for it is the greatest plague of a Man's Life, and is very dangerous to the Heart, as it does the highest violence to the mass of Blood. Grief, Care, and Fear, have all of them, as experience testifies, been the cause of this Disease.

As to the excreta and retenta,

they must be correspondent to Nature or Art: for such as are naturally loose in their Belly, are less subject to a Pleurisie, and on the contrary. Therefore a stool must be had every day, according to *Hippocrates lib. de Aere, Aq. and Loc.* But when there is a Pleurisie, it is better to be Costive than Loose; since, in *Hippocrates*, his judgment, as in all Inflammations, so in a Pleurisie (which is of that nature) purging is hurtful. The Retention of usual evacuations, as of the Hæmorrhoids, *Menses*, *Lochia*, and *Fistulae* is hurtful. Falling from on high, and carrying too heavy a burden, may either of them occasion it.

§. 13. Pharmaceutick Cure.

WE will now take a view of the Pharmaceutick cure, and first see, what method the Antients used in a Pleurisie. And they first of all, lest the Disease should get ground, give a Clyster, and when that is come away, they let Blood in the Basilick Vein of the Arm on that side the pain is, till the Blood change; then they clap Cupping-glasses to the *Hypochondria*, and by Ligatures, Frictions, and Suppositories, they endeavour to divert the matter from running to the part affected. And if a viscid and bilious matter oppress the Body, or if it be not already got into the part affected, they evacuate it (otherwise they forbear) by some gentle Purge. Their Evacuators are *Cassia*, *Diaprunum laxativum*, *Manna*, *Agarick*, and *Rhubarb*, mixt and boyl
ed

ed with other Pectorals. Then they make the matter, which ouzes into the Lungs, or is already lodged there, obedient by things familiar to the Breast, and which promote spittle, Syrup of Jujubs, Liquorice, Violets, Maiden-hair, Hyssop, Sugar Candy, *Diapenidium*, *Species Diaireos*, *Diatragacanthum Frigidum*, *Lohoch de pino*, *Lohoch sanum* & *expertum*, a decoction of Figs, Barly, Liquorice, sweet Almonds, &c. Here is a Receipt out of their Dispensatory;

Take of *species diatragacanthi frigidi* one ounce, Penidies, Sugar Candy each two drachms, Syrup of Violets, Jujubs each half an Ounce. Make a *Lohoch*.

They highly commend the following Decoction for raising of spittle.

Take of scraped Liquorice one Ounce, Raisins, Figs, Jujubs, *Sebesten*, sweet Prunes each No 20, four cold Seeds, Seeds of Mallow, Marsh-mallow each two Drachms, Flowers of Chamomil, Violets each one pugil, whole Barly one pugil and an half. Make a Decoction in Barly-water.

To this end they prescribe Fomentations of a Decoction of Mallows, Marsh-mallows, Fenugreek, Linseed, and Figs, which they put in a Bladder, and apply them hot to the pained Side. Or instead of these they apply a Cataplasm, made of the foresaid *Species*, and other Pectorals, or an Oyntment of Grease, of Duck, Goose, Badger, Hen, Oyl of [sweet Al-

monds and white Lilies. They foment the part affected with a Decoction of Hyssop, and anoint the whole Breast with oyl of Lilies, Chamomil, and powder of *Iris*, and Saffron. They likewise commend the Broth of an old Capon boyled with Hyssop and Maiden-hair. Then they give healing things, and they prefer Goats milk above all others. In a bastard Pleurisy they order such things as gently resolve;

Take of flowers of Chamomil, Melilot, Leaves of Rue, Dill, Violet, Mallow each one handful. Cut them and put them in a bag, boyl it in milk and apply it to the pained side; and let it be often repeated.

They also use a bag of Salt, Millet, Bran, Aniseeed, and Caraways, if the matter be windy. In a Peripneumony they use the same Cure as in a Pleurisy; only they apply Cupping-Glasses to the Shoulder blades. But if it turn to an *Empyema* or a Consumption, it must be otherwise cured, of which you may see more in their proper place.

§. 14.

THE Paracelsists prescribe various Medicines in this Disease, which are said by their internal signature to be proper for a Pleurisy; namely, Nitre, Tartar, Sulphur, Antimony, Sal Ammoniac, &c. Outwardly they apply the Jaw of a Pike, Larkspur, and Flowers of dry Dock. They commend the following Composition;

S 3

Take

Take of the three Salts each one Ounce, both Tartars each half an Ounce, Mummy one Drachm, water of Baum, Dodder of Thyme, Bugloss each what is sufficient. Destill them in an Alembick. The dose from one scruple to four.

Paracelsus himself cured several Pleuritics by Bleeding in the inner Vein of the Arm on the same side, and then giving spirit of Tartar in drink. He affirms, he has cured many by *Turbith* or *Diaphoretick Mercury*. He condemns and despises Purges and Clysters, but not Vomits: however great care must be had in giving them, and they must be gentle. For I lately gave a strong Souldier a Vomit in a Pleurisy, which had like to have done much mischief. For he vomited abundance of Blood; and unless I had prevented it by Cordial Opiates, undoubtedly he had died of it. Therefore we should be cautious.

§. 15.

Helmont in this case blames an Acid; and proves it, because in a Pleurisy the Urine and Blood thicken as they come out, which is an effect of Acidity. He rejects Bleeding as an accursed Remedy; because a Pleurisy cured by Bleeding often leaves a Consumption behind it: And they that use Bleeding much, do often fall into this Disease. The acidity is easily cured by Diaphoretick Medicines. And this acid does sometimes damage the Spleen: for he remembers how, after he was cured of a Pleurisy, he felt a pain and swelling in his Spleen, which he

cured by drinking Crabs Eyes boyled in Wine; and therefore he questions not, but all acids are proper. Yet he first took some Stag's Pizzle, and drank a Drachm of Goats Blood, upon which his Spitting of Blood and the Disease abated. His never failing Remedies are these following; Powder of Stag's or Bull's Pizzle, Juice of wild Cichory, flowers of red Poppy, Horse dung, Boar's tooth, Daisy; but he prefers Goats Blood before all; yet it must be drawn thus; the Goat must hang by his Feet, and his hind Feet must be tied to his Horns, then his Stones must be Cut, and the Blood must be saved. Here is a Receipt;

Take of Goat's Blood drawn *Helmont's* way one Scruple, Powder of Stag's Pizzle one Scruple, water of red Poppy one Ounce and an Half. Mix them. Make a Draught. Or,

Take of Flowers of red Poppy, Daisy, leaves of wild Cichory each one Handful, Crabs Eyes, Boar's Tooth each half an Ounce, Horse Dung one Ounce and an Half. Boyl them in a sufficient quantity of Barly-water. Add to the colature syrup of red Poppy, what is sufficient. Mix them. Let the Patient take a draught now and then.

He also gives a Drachm of red Poppy flowers in Broth, and repeats it several times.

§. 16.

Millis thinks the stagnation of the Blood in the Lungs must be quickly removed: To which purpose (whatever some may say to the contrary) he extols Bleeding as the chief Remedy both in a Pleurisy, and Peripneumony, as good for removing the stoppage of the Blood, wherever it is. He gives this reason, because the Blood-vessels being much emptied thereby, it reforbs the peccant matter, and carries it another way. But he will have the strength always considered; nor does he admit of any choice of Veins, whether on the same or on the contrary side. If the Patient cannot bear Bleeding, he advises the Cupping and Scarifying of the pained place. He rejects strong Purges and stibiate Vomits. He highly commends Clysters, and Lenitives, if the Fever be not violent. In the heat of the Blood he prescribes several Juleps and Decoctions. To destroy the roughness and acidity of the Blood, he magnifies Precipitants, such as Crabs Eyes, Boar's Tooth, Carp stone, Bone of a Stag's Heart, Stag's Pizzle in Powder, Goat's Blood, *Lapis prunella*, Salt of Urine, Harts-Horn, Volatil Spirit of Sal Ammoniac, Tartar, *mixtura simplex*, and such other things. Here are some of the Author's own Receipts;

Take of water of red Poppy Flowers three Ounces, Fenil one Ounce and an Half, *Lapis Prunella*, Crabs Eyes each half a Scruple, Volatil Spirit of Sal Ammoniac one Scruple, Syrup

of red Poppy one Ounce. Make a mixture.

To destroy the clamminess and acidity of the Blood;

Take of water of *Carduus benedictus*, Cichory each half a Pound, fresh Horse dung two Ounces. Let the liquor be filtered. Add of Syrup of red Poppy one Ounce, Volatil Spirit of Sal Ammoniac half a Drachm. Mix it, and give five Spoonfuls.

Moreover he commends other Cordial and Anodyne Medicines, which refresh the animal Spirits, and hinder the kindling of the Blood, which blazes too much. Which intentions he answers by Pearl Juleps. He gives you this Receipt;

Take of pearl-water of the Shops, red Poppy each three Ounces, *laudanum tartarifatum* twenty Drops, Spirit of Goat's blood half a Scruple Syrup of Violets six Drachms. Mix them for two times taking.

Externally also he advises Anodynes in form of a liniment, Cataplasm or Plaster; such as Oyntment of Marsh-mallows, Oyl of Sweet Almonds, *Emplastrum de Mucilaginis*, *de opio*, Oyl of Poppy, Marsh-Mallows, Henbane, &c.

§. 17.

AS for the Cure of this Disease, according to the *Sylvian hypothesis*, it consists, 1. In removing Obstructions. 2. In restoring

the Motion of the Blood. 3. In Correction of the extravasated and in some measure corrupt Blood.

4. In Maturation. 5. In opening the ripened Blood. 6. In cleansing the Apostem, when opened. 7. In healing of it up. Things that remove Obstruction of the Vessels, do also quicken the Motion of the stagnating Blood, and they are chiefly volatil Salts of Wine, Harts-horn, Soot, and volatil Salt of Goat's blood, which do not only dissolve and make fluid what is coagulated, cause Sweat and so expel the peccant Matter; but correct the Blood poured into the *Pleura* when it is devoid of Spirit and turned sower: he praises this mixture following;

Take of Water of Parsley, Hyssop, Fenil each one Ounce, Treacle-water half an Ounce, Spirit of Sal Ammoniack half a Drachm, or volatil Salt of Harts-horn six Grains, *laudanum opiatum* four Grains, Syrup of red Poppy one Ounce. Mix them. Let the Patient take a Spoonful or two of this Mixture now and then, that so the Obstruction may be removed.

I have seen *Sylvius* cure several Pleuriticks in the Hospital at *Leiden* with this Medicine, without letting Blood. If the Obstruction be radicated, it is then difficult to cure; but I have heard him with his own mouth highly commend *Helmont's* Medicine, which is Crabs eyes boyled in Wine, and drunk: Or,

Take of Crabs eyes, a Pike's mandible, Bone of a Stag's heart each half a Drachm, diaphoretick An-

timony two Scruples. Mix them. Make a Powder.

It is an excellent Remedy, to imbibe an Acid: for grumous Blood, coagulated by an Acid, may be dissolved by such sort of Medicines. Among Externals he commends divers Unguents made of lenient Fats and Oyls, Fomentations made of aromatick and emollient Plants, and Bags to be applied alternately, as there shall be occasion. For he holds, that the virtue of these things can penetrate the Pores of the Skin, and so remove Obstructions. The Motion of the Blood is restored partly by Sudorificks, especially by the foresaid volatil Salts, partly by Bleeding in the beginning of the Disease which according to the Patients Disposition and Strength, may be repeated several times; for at every Bleeding the Blood is moved. At length if the Matter tend to suppuration (which yet by all means should be hindred) and from that to an abscess, then Ripeners, Emollients, Mundificants, and Healers must be used; for which purpose he commends five drops of *balsamus sulphuris anisatus* or *terebinthinatus*. For it not only cleanses and heals the Ulcer, but by its oylinefs and volatil Salt expels and enervates the sharp Acid, which is the cause of the Pain.

§. 18.

The Cartesians commend Bleeding and the foresaid Medicines, both inward and outward.

§. 19.

WE have done with other Mens Remedies, now we will go to our own. When a Pleurisy is caused by a coagulating Acid, and by the Motion of the Blood being hindered, we presently go to Blood-letting. But if there be any Malignity we omit it, and instead thereof we cup and scarify or apply Leeches in several places, because these may be born, without much loss of Strength. All that remains to be done, is to dissolve the Blood, coagulated by an inept Acid. And the principal things that do this, are, such as consist of an *Alkali*, as well fixt as volatil. For Volatils do not only quickly imbibe an acid; but they are also Alexipharmack and Diaphoretick, such as the Urinous Spirit of Sal Ammoniack, the volatil of Tartar, *Tinctura bezoartica* mixt with *essentia anodyna Wedelii*. Towards the Declension they may be mixt with more fixt Specificks, namely, with Diaphoretick Antimony, Boar's Tooth, Harts-horn Philosophically prepared, Crabs Eyes, mandible of a Pike, which when the effervescence of the Blood is excessive, are more proper than Volatils. This is an excellent Antipleuritick powder of *Ludovicus* for the same purpose;

Take of the mandible of a Pike fish in powder two parts, Goat's Blood, yellow Sulphur each one Part. Mix them. Make a powder, to be given twice or thrice a day in red Poppy water.

If the Pleurisy be fierce and malignant, I dare recommend this following Antipleuritick, Bezoartick Tincture of mine, which I lately experienced much in the Epidemick Pleurisy.

Take of the powder of volatil and fixt Salt of Vipers each half a Drachm, Peach Stone two Drachms, Bark of the Root of Cinnamon, Flowers of red Poppy each three Drachms, Root of Elecampane, *lignum colubrinum* each half an Ounce, Goats blood three Drachms, Castor one Drachm, Spirit of Wine camphorate, and impregnated with Crabs Eyes eight Drachms. Digest them, then let them be thrice separated according to Art, and let it be tinged to redness with red Poppy flowers.

In defect hereof *Tinctura Bezoartica Michaelis* or *simplex* may be given. But Expectorants must always be given between whiles, or must be mixt with them: for instance;

Take of water of *Carduus benedictus*, *Loboch Sanum*, red Poppy each one Ounce and an half, *Tinctura Bezoartica* either *nostra*, *Michaelis*, or *simplex* one scruple, Volatil salt of Goats blood seven grains, *Laudanum opiatum* one grain, Syrup of red Poppy six drachms.

This Mixture must be repeated every four hours, especially when there is Malignity. In the mean time let him drink a Decoction of Stag's pizzle. The following Emollients are good to temper the acid which inflames the Lungs or Pleurisy.

Take

Take of Linseed Oyl one Ounce and an half, *Species diatreos* one drachm. Mix them for once taking.

Or this of a noble *Helvetian* of *Friburg*, communicated by *Juncken* in his excellent Treatise.

Take of water of *Carduus benedictus*, *Maria* each three Ounces, Oyl Olive one Spoonful, nine Medlar Kernels powdered. Mix them. Make a draught for once. Or,

Take of water of *Lobach Sanum*, white Lilies, red Poppy each one Ounce, extract of red Poppy half a Drachm, Saffron four Grains, Sugar Candy what is sufficient. Mix them. Or,

Take of *Sperma Ceti* one Drachm, Syrup of Violets, Marsh-Mallow each one Ounce. Make a *Linctus*.

When a Pleurisy comes to Suppuration, this following will be proper;

Take of Syrup of Tobacco two Ounces, water of Scabious, Juice of Speedwel, Ground-Ivy each one Ounce. Mix them for several times taking.

At length we conclude the Cure with Crabs Eyes, Coral, and other fixt *Alkalies* mixt with Opiates, sometimes without them. We shall give you some Receipts, with which, through God's Blessing, we cured several;

Take of powder of Boar's Tooth, Crabs Eyes, Goat's Blood, *crystallum Minerale*, Flowers of red

Poppy each half an Ounce. Mix them for two Doses.

Or, where there is a sufficient quantity of Serum, this following;

Take of Crabs Eyes, Mandible of a Pike Fish each one Scruple, Native Cinnabar six Grains, *Laudanum Opiatum* one Grain, red Coral six Grains. Mix them. Make a Powder for once; repeat it often.

I have cured several Pleuriticks by thrice giving a Drachm of the Interstice of the inside of a Walnut dried and powdered, in red Poppy water; but then I bled first. I have also found Snail-Shells effectual. Or,

Take of Crabs Eyes, Goat's Blood each one Scruple, yellow Sulphur, *Antimonium Diaphoreticum*, Root of Burdock powdered each twelve Grains. Mix them. Make a powder for one Dose, to be given in red Poppy water.

But if in this Disease the Blood grow hot for want of Serum, the following Emulsion will do good.

Take of Seeds of Melon, *Carduus Maria* each two Drachms, sweet Almonds half an Ounce, water of red Poppy, Burdock, *Scorzonera* each what is sufficient. Add of the Mandible of a Pike, Harts-Horn Philosophically prepared, *Antimonium Diaphoreticum* each half a Scruple, a little Sugar Candy. Mix them. Make an Emulsion.

About

About Fifty drops of Tincture of red Poppy may be given mixt with Antipleuritick Spirit. For such as are Thirsty, if there be no Vomiting nor Looseness, we use *Clyffus Mineralis*, Spirit of Salt or Spirit of Nitre in a proper Decoction. In a Phlegmatick Pleurisy I have given Spirit of Sal Ammoniack anisated, with good Success. But if the coagulating Acid come from a Scorbutick disposition, *Cardilucius* his Antipleuritick Medicine will be proper, to wit, Juice of Water Cresses new drawn may be given mixt with Wine. If the Sulphureous Particles be coagulated and mixt with a thick and tough *Mucus*, it must be incided with *Oxymel* of Squills or Simple. When the Blood is turned to Pus, or a foul Ulcer is made, and great store of purulent Matter is raised, then you may with good Success give *Balsamus Sulphuris anisatus*, or *terebinthinatus*, or Balsam of Peru. When Pain arises from a conflict between acid and alkaline particles, which contract the Fibres, we must fly to Opiates, in which case I have given *Essentia anodyna Wedelii* with good Success. Purgatives must not be given but in the end of the Disease. And Vomits must not be given at all. We approve of divers outward Applications, Unguents, Oyls, Cataplasms, Fomentations, &c. Here are Receipts;

Take of *Unguentum Antipleuriticum Mynsichti*, *Dialthæa Compositum* each one Ounce, *Crocus Maris* one Scruple. Mix them.
Or,

Take of Oyl of oblong Gourds

one Ounce, Scorpions half an Ounce, Chamomil, white Lilies each two Drachms, Saffron one Scruple. Mix them. Or,

Take of fat of the Mountain Mouse three Drachms, Oyl of Sweet Almonds, white Lilies, Chamomil, Mullein, Poppy by expression each one Drachm and an half, Henbane one Scruple, the distilled Oyl of Dill, Chamomil each six drops. Mix them.
Or,

Take of Root of Marsh Mallows one Ounce, white Lily half an Ounce, leaves of Mallow, Marsh-mallow. Pellitory of the Wall each half a handful, Flowers of Mullein, Melilot, Violets, Chamomil each two Pugils, Linseed, Fenugreek each one Drachm. Powder them and boyl them in Milk for a Cataplasma. Or you may put the Powders in a bag, boyl them, and apply them, for it is excellent.

Some boyl ten Onions in Milk to the consistence of a Pulver, and apply them to the pained Side. Digby Commends a hot Loaf, as it comes out of the Oven, cut in two with some Venice Treacle mixt with it, and applied hot to the Side affected. I have eased several Pleurisies with the following Fomentation;

Take of Millet two handfuls, Flowers of Chamomil, Melilot each half an handful, Linseed one Ounce and an half, Crude Salt two Ounces. Mix them in a Frying pan, and sow them in a bag, for outward application.

CHAP. IV.

Of a Consumption.

S. I.

THe next thing that offers it self to our consideration is a Consumption, a sad Object to the beholders, being in all appearance, but a walking Ghost;

Ossa regit macies, nec juvat ora cibus.

Names.

This Disease is called the Phthisick, Consumption, Wasting of the Lungs, Extenuation of the Body, Consumption of the whole Body, Macilency, an Ulcer or Exulceration of the Lungs.

Definition.

And it is usually delineated to be *A Consumption of the whole Body, with a lingering Fever, and a purulent Cough, caused by sharp Particles, Tubercles or Stones that exulcerate*

and corrode the spongy substance of the Lungs. For all People in this Disease do waste and consume, and it shows it self at first in a Cough without Spitting, but in process of time by continual Spitting.

Kinds.

Yet there are other sorts of Consumptions; as a spurious Consumption, when part of the Body or the whole wastes without an Ulcer of the Lungs, when only the Blood is sharp, and such are usually ascribed to some Indisposition of the Head, Stomach, Liver or Spleen; hungry Worms also, as they are vulgarly called, make Children very lean, and there are several other sorts of Consumptions, which for brevities sake I now pass over, but I shall take notice of them in their proper place.

§. 2. *Part affected.*

Concerning the Part affected Authors are not agreed. *Sylvius* blames the Glands of the Lungs; *Barbette*, the Stomach and Glands of the Mesentery; but that here, that is, in a confirm'd Consumption, the Lungs are affected, I think every Man will allow: for my own part I dare affirm it: for I have opened above eighteen dead Bodies, and found the Lungs ulcerated in them all but one, who also had an Ulcer in the Membrane that encloses the Ribs. Consult *Bonetus his Practical Anatomy*. Therefore I am of Opinion, That primarily the Lungs, which ventilate the Blood, are affected; secondarily, the Blood and Heart, as appears from the Fever and wasting of the whole Body, which from hence is made manifest, if we consider the Symptoms, namely difficulty of Breathing, a very troublesome Cough, and Spitting of purulent Phlegm: for the Lungs are a Body made up of mere Vesicles, and therefore easily receptive of such Ulcers.

§. 3. *Diagnostiks.*

At first this Disease is very difficult to be discovered; yet what Signs may be observed of a Consumption approaching, *Hippocrates lib. 1. de morb.* does elegantly describe, And from these Causes, indeed (says he) Pus is gathered in the Lungs; if he that is bled with an Inflammation of the Lungs purge not on the Critical Days, but the Spittle and Phlegm remain in the Lungs, he suppurates; who, if he be presently taken into cure, for the most part e-

scapes, but if he be neglected, then he is corrupted by the putrefying of that which remains within, after that he is ulcerated and gathers Pus, and never after gathers any nourishment worth speaking of; nor does he raise any thing by Spittle, but is suffocated, and continually oppressed with greater difficulty of Breathing, and when he does breath, he rattles, and then he wheezes in the upper part of his Breast, and at length, when his Passages are stop'd by his Spittle, he dies. Now the Signs, which show that a Consumption is coming, must be very diligently observed, that, if possible, so pernicious a Disease may be prevented, and according to *Hippocrates* they are, a lingering Defluxion, a tickling Cough, Spittle more bitter and sharp than usual, a small Heat, and among the rest, we may reckon a consumptive Disposition, which *Hippocrates l. 1. Epid. c. 1.* does more fully describe, namely, If the Chest be narrow, the Breast strait, the shoulder-blades sticking out, and if the Neck be long; also an hereditary Disposition gives no small suspicion of the imminent danger of this mischief: for instance, If the Parents of the Party died of a Consumption: for usually one troubled with the Stone, begets one troubled with the Stone, a gouty Person, one troubled with the Gout; an Epileptick, one troubled with the Epilepsy, and why not a consumptive Person, one troubled with a Consumption? For healthy People breed healthy Seed, and diseased People a diseased Seed, which Disposition is also transferred to the Children by morbid *Idaas*, or by an exotick Ferment, which in time grows ripe, and shows the hereditary Defects, as I could make out

by many Instances, That Children are altogether as much the inheritors of their Parents Diseases, as of their Estates, which thing deters many from marrying such Persons. But if one have spit Blood, and continue so to do, if he be troubled with a violent Cough, if he breath hard, if he raise a greenish, yellow, ash-coloured, purulent or blackish Spittle, if when spit into the fire, it send out a stinking smell, or sink in Water, by reason of its stickiness and weight (though sometimes all the time of the Disease, there appear nothing of Blood in the Spittle) all these give shrewd Signs of a Consumption, especially if the Fever grow higher about two hours after Meal. There is the same danger, when we find white, chalky Stones voided, as the *German Ephemerides* testifies. However we must take notice, That these Signs do not hold Infallibly true. The Signs of a confirm'd Consumption, are, a notable Emaciation of the Body (for the sharp Blood of consumptive Persons nourishes not, but rather corrodes) frequent Coughing, Expectoration sometimes easie, sometimes difficult, and that oftentimes bloody, purulent, sanious, fetid, and of several Colours, a dull pain about the Shoulder-blades, and Breast, Wind in the Stomach, the Appetite sometimes decayed, sometimes depraved, sometimes too great (or canine) sometimes excessive thirst, and sometimes the swelling of the Feet is grievous, by reason of the Humors reflaguating in the Vessels of the Feet, and at length breaking the Lymphaticks, the Belly is sometimes too costive, sometimes too loose, excessive Sweats which smell sowre do emaciate the Patient, e-

specially in the night: for according to the Opinion of the *English*, the nutritious Juice cannot be assimilated; though it be carried to the Parts for their nourishment, but because of the destruction of the Pores it slips away, and runs out at the Habit of the Body, hence are these colliquative Sweats in hectic Persons; there are also in this case frequent swoonings, *deliriums*, slow animal Motion, a frequent and weak Pulse, a lingering Fever some few hours, as we said before, after Meal, with flushing in the Face, showing it self with a quicker, and more intense heat towards Evening; for in a Consumption the Blood contracts Acrimony, because it continually passes through the purulent Lungs; because when new Chyle comes to the Heart, it cannot mix with that corrupt Blood, although the Chyle be duly elaborated in the Stomach and Intestines, whence proceeds an unequal mixture, and a mischievous contrariety, by reason namely of an irregular mixture and figure of the Parts; whence it cannot otherwise be, but that after Meal the Fever must be encreased. Besides, sometimes the Legs swell and are in pain, because of the translation of the purulent Matter; in the Stools and Urine, sometimes there appear purulent, and fatty or oily excretions; in a consummate Consumption there is a looseness, the Pores are obstructed, then all the moisture is voided, in this case also the Hair falls off, because the Pores of the Skin are inverted by sharp Humors, and the Roots of the Hairs are destroyed; in some People also abundance of Lice are bred, the Nails grow crooked, the Patients look with an Hippocratical

cal face, that is, their Nose is sharp, Eyes hollow, Temples sunk, tips of their Ears cold and contracted, the Skin about their Forehead and Palms of their Hands hard and dry, the colour of their Face pale, livid, black, &c. One shall seldom meet with all these Signs we have mentioned, in one single Patient, in some more appear, in others fewer. These make up a pathognomick Sign of a Consumption, a frequent Cough, difficult Breathing, emaciation of the Blood, a lingering Fever, and purulent Spittle, yet the Observations of some famous Physicians testify, That many have died of a Consumption, without the last: But whereas some Physicians will have a true Consumption to be known by the sinking of purulent Spittle put into warm Water, and by the sinking of it, when spir upon live Coals, they are much mistaken, since viscid Phlegm, when it has been of any continuance, (as I have often observed in splenetick and scorburick Persons) may sink, and by reason of its weight sink to the Bottom. Fat comes in the Urine, because the Acrimony of the *Pus* fetches off many fat and oleaginous Particles with the other Particles of the solid Parts, which oleaginous Particles, when they are voided with Urine, by reason of their smoothness, cannot mix with it, and therefore swim at the top. When the surface of the Patient's Body is touched with the Hand, a sharp Heat is perceived, which arises from abundance of volatil Salt, exhaling by the Pores of the Body.

§. 4. Causes.

NOW we enter the spacious field of Causes, and according to our Method we gather the Flowers of divers Authors into a Posy. According to the Opinion of the old Galenists, the proximate and immediate Cause is an Ulcer, the preceding Cause whereof is a sharp, corroding Humor, which, as a Catarrh, falls from the Brain upon the Lungs, and then exulcerates them; they say, this Humor is sharp or salt Phlegm, which causes a fierce Catarrh, that corrodes the Lungs, they being excessive soft, tender, and very apt to corrupt, and at length breeds a putrid Ulcer. According to these Men therefore a Consumption comes from a Catarrh, caused by a cold Air, or by immoderate drinking of strong Wine, and also of very cold drink, if drunk in great quantity, especially upon the Body's being violently heated before: For any sharp Humor or Vapour, which is but able to corrode and wound the tender substance of the Lungs, or their Coats, may easily produce this Disease. Also an Apostem of the Lungs, when it breaks, and the purulent Matter falls on the Lungs, and stagnating a long while in them acquires Acrimony, must of necessity cause an Ulcer. So also when a Pleurisy or Peripneumony end in a purulence, and the *Pus*, as we said in the Chapter foregoing, is not raised within 40 days, from the first day of its appearing, then also this deplorable Disease is caused. And a continued chronical Cough may, by its violent Motion, break the Membranes of the Lungs, for too much

Motion

Motion hurts. And they prove it hence, in that Singers, Preachers, and such as lift heavy things, are subject to such Diseases; and the Ancients do not deny, but that this Disease has sometimes its rise from Vomiting, or painful Child-bearing, through too violent Motion, and breaking of the Veins or Arteries ensuing thereon.

§. 5.

THese things premised from the old Oracle of Medicine, now I will see what the Opinion of the more Modern Chymists is, concerning this Disease, which appears not to differ much from the former: for theirs is, that it is an Ulcer, and the Disease saline by right of predominance; for all erosion comes from Salt alone. Now as long as this balsamick Salt, tempered with the viscous sweetness of the Sulphur, and the Nectarean irrigation of the Mercury, observes the proportional Laws of Confederation, so long such Unity and Vigor is preserved; but when upon its effervescence and turgescence it separates from the other two, and endeavors to set up for it self apart, then it raises a War, and rests not, till it sit down in the Lungs and fix there. If therefore the mechanick Spirits, being weak either by Birth or Disease, are not able to separate the mucilaginous Impurities that stick close to the Food, nor to expel the superfluous dissolved Salt by Sweat, Urine and insensible Transpiration, then comes this Disease: For the Salt of the thing uniting with the Salt of Nature breeds Tartar, upon the breeding of which, Obstruction follows, and the Balsam is al-

tered, whereby Passage for the Aliments and free Ventilation for the Spirit of Life is stop't; whereupon follows Inflammation, and because then the Salt is dissolved, Putrefaction; from Putrefaction, because the corrosive Salts being set at liberty are produced into Aft, Erosion and Exulceration. And the summ of the whole is, that the Chymists do blame Tartar, either salt, or some other way vitious, which corrodes the Vesicles of the Lungs.

§. 6.

Helmont ascribes the cause of this Disease to a singular and strange Ferment, which causes an error in the vegetative Faculty, so that Phlegm and an obstructing Mucilage is bred of good food, because the *Archeus* is very often impeded in correcting the acid Blood; the injuries of the Air also do the same; as it is able to invade the tender substance of the Lungs, to corrupt and alter the Ferment, and incline the Pulmonary *Archeus* to a consumptive Disposition. For when the Blood has contracted Acrimony, and is inept for Nutrition of the Parts, upon its coming into the Vessels of the Lungs, it opens them, whence proceeds spitting of Blood, often attended with purulent Spittle, and then a Consumption: Because the *Archeus* upon this putrid Afflux, being enraged by the sharp and corrupt Blood, casts it out; which same Blood may easily be corrupted by Meats that are salt, sharp and dried in the Smoak. But he obstinately denies, That Spittle can come from the Head to the Lungs, or that any thing can fall from the Brain upon

upon the Lungs, but that it rather proceeds from the proper fault of the Lungs themselves.

§. 7.

Ullis (who on good grounds reckons this Disease among those of the Breast, for other Diseases of the Breast turn into it) judges that the cause of this Disease lyes in the Breast, and proceeds from solution of Unity in the Lungs, and from an Ulcer thereupon : wherefore to distinguish it from a Consumption, which chiefly proceeds from a corrupt and highly polluted Blood, that has thereby lost its nutritive virtue, he calls this Disease a Consumption of the Lungs. Now an Ulcer of the Lungs, according to him, arises from excess of Humors discharged by the Blood upon the Lungs, which get into the tracheal and pulmonary Vesicles, fill and distend them ; for when the Vessels are broke, there is an evasation of that peccant and putrid Humor, whereby at length this sordid Ulcer is bred. And he holds, That the Lungs contract this consumptive Infection from a sowe Blood, which has lost its consistence, and pours its serosities both out of the pneumonick and tracheal Arteries into the substance of the Lungs, and sometimes from the fault of the nervous Juice, and by several Experiments and Reasons he shows, how a Consumption may easily arise from obstruction of the Lymphæducts, and suppression of usual Evacuations.

§. 8.

Sylvius blames the Serum most, as by its briny, salt Acrimony it not only vellicates the Lungs into frequent Coughing and tires them out, but also at length frets the Coat of the *aspera arteria*, which being fretted, this Ulcer of the Lungs follows. He holds also, That oftentimes at first the pancreatick Juice is not well mixt with the Bile ; whence it comes to pass, That the over thick Chyle is not duly transcolated through the Glands of the Mesentery : for thus the thicker share of it sticks in the lacteal Glands untranscolated, and being crammed up there it hardens, but the serous Part of it only is carried by the *ductus thoracicus* towards the Heart ; for he will have it, That by the Laws of the Circulation of the Blood, the Vesicles of the Lungs may be filled with a too serous *Lympha* ; inferring from thence, that a Solution of Continuity, and then an Ulcer may easily be raised.

§. 9.

The Cartesians maintain, and that upon good grounds, That a Consumption arises from an Afflux of acute and sharp Particles, that eat and corrode the Lungs, whether these vitious Particles get into them out of the Arteries or lymphatick Vessels in manner of a sharp Catarrh, or when an Abscess in a Quinsy or Pleurisy breaks, and the Matter runs into the cavity of the Breast ; and hereby they prove it, because all that follow destilling of strong Waters, and other chymical Operati-

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on

cns too much, also they that work in Lime, such as Bricklayers and Plasterers, do usually, by reason of the Sharp Subtil and Volatil Particles, which arise from such subject matter, dy Consumptive. And for the further confirmation hereof, there is not one Physician but prohibits Sleeping in a Room that is newly plastered: for such acute, volatil Particles do not only volatilise the Blood, but they fret the very Coats of the Arteries, and when they are fretted, the Blood must needs run out, whereupon ensues Spitting of purulent Matter, according to *Hippocrates*; for it is unanimously agreed upon both by the most eminent of our faculty, and by the *Cartesians*, as appears from *Cart. Princip. Philos. part. 4. art. 92.* that *Pus* may be made of Blood. The Body also wasts because of the Acrimony of the *Pus*, for *Pus* has much Salt in it.

§. 10.

NOW we will give our own opinion; and I think the immediate and proximate cause of a Consumption is an exulceration of the Lungs. Nor let any man doubt that there is an Ulcer in this Disease, for in several dead Bodies, as I said before, that I have opened, I have seen an Apostem with mine own Eyes. I judge the proximate cause is acid, sharp Particles, but volatil, which corrode the Substance, Vesicles and Vessels of the Lungs, and also turn the extravasated Blood into *Pus*. For that an Acid has a Corrosive and Exulcerating faculty, appears from the application of Spirit of Nitre, Sulphur, and other acids

to the fleshy parts, where we find, by the appearance of white, purulent matter, that they manifestly corrode; whence we may easily conclude, that the same Acid can turn Blood into *Pus*. For (to instance) if upon common *Sulphur* dissolved in a *Lixivium* an acid Spirit be poured, its reddish colour will turn White. Now, to apply this to the present purpose, we must know that in the Blood (as is granted from the *analysis* of it) there are oily parts, which make up the *Sulphur*, and Saline, Lixivious, and Acid ones, not unlike the Particles of the foresaid experiment; and so the Acids overcome the *Sulphur* in the Body. I could produce more experiments to this purpose, but now for brevities sake I shall refer the curious Reader to *Willis, c. 9. l. de fermentatione*. Among the antecedent Causes I reckon Acrimony of the Blood as chief, for if we well consider all Consumptive Persons and their Symptoms, we shall meet with nothing but signs of a sharp Blood, that exulcerates the Lungs; sometimes a Consumption comes from sharp exhalations arising from Slaking of Lime. A bastard Consumption arises from Hypochondriack Melancholy, wherein the Mesenterick Glands and Lacteal Vessels are obstructed, so that but little of the Chyle is carried to the Blood, wherefore the Blood grows thin and causes Leanness. But as for great difficulty of Breathing in this Disease, it is caused usually by abundance of *Pus* stuffed up in the Lungs; which consequently oppresses them; for natural respiration does not only serve for discharge of fuliginous Matter, as the Ancients held, or for the Cooling

cooling or Circulation of the Blood, or for Formation of the voice; but by means hereof the Blood is thinned and dissolved in the Lungs, and hereby the *Sulphur* of the Blood is volatilised, to the end that in an augmented Fermentation in the Heart it may unite with the volatil Salts of the Blood, and become a spirituous *Gas*, or vital, hot Spirits, and in probability lucid, that so the Blood may be kindled, as the Excellent *Etmuller* has curiously observed. Now also I shall give you the causes in brief of the most urgent Symptoms in this Disease according to my own Judgment, for so the universal cause will more exactly appear.

Whence therefore should we derive the cause of a Cough, but from acrimony, *i. e.* from the acidity of the *Pus*, or of some other Humor, stopping and stagnating, which sollicitates the Lungs to eject what is troublesome to them?

I ascribe the wasting and emaciation of the Body to Blood that is polluted and made sharp by an Ulcer; for these acid and sharp, saline Particles of the Blood are voracious, and do plainly devour, or cast out by colliquative Sweats the balsamick and oily parts, which are fit for Nutrition, whereby the disturbed Mass of Blood is rendered unfit for nourishment; and when little or nothing comes in place of the lost parts, it cannot otherwise be, but that the body must by little and little decrease and consume.

Moreover I derive a slow Fever from an unequal mixture of the Blood, as I also do the flushings especially after Meals, because the Chyle in a few hours after eat-

ing is turned into too sharp a Blood, which then passes by the capillary Arteries to the out part of the Skin and causes a redness of Cheeks.

Lipothymies or Swoonings, which show themselves in a confirmed and mortal Consumption, arise from a vitious Effervescence of the Blood, or rather from a vitious Acid, that turns the Blood into Clots.

A Looseness (which supervening, the Patients, not only by *Hippocrates* his authority, but from my own observation, must be given up as lost) comes from hence, because by reason of the great Acrimony of Humor and Dissipation of Spirits ensuing thereon, it cannot otherwise be, but that the *Pus* in the Breast must by its Acrimony taint all the Blood, and make the very bile sharper, which being poured out of its bladder, of Consequence there will be a continual provocation to stool; for in above six Consumptive Persons, that I have opened, I found the Gall-Bladder quite empty of Gall, and ever since I have suspected, that in such as are inclined to a Consumption, their Blood at first is made over sharp with Bile, which Bile also in Consumptive Persons is for the most part of a Saline, Oily, Volatil nature: wherefore in the first degree of a Consumption People complain of a bitterness in their Mouth, all which things argue an evacuated and volatil Bile.

If the Hair falls in a Consumption, it signifies that the Blood is so sharp, that it eats the Roots of the Hair; for the sharp *Pus* mixt with the Blood, as it is discharged on other parts,

so also on those of the Head upon the little Glands, that stick about each pore of the Skin, which are the Roots of the Hair; for where such Glands are, there are Hairs, and the whole Body is hairy, though the Hair be not seen.

Now the rest of the Symptoms and their causes will be plain from what has been said, so that we will insist no longer upon their explication, since it is evident that all these evils flow from one source, that is, from a sharp Acid, or Bile, lying in the Mass of Blood: Wherefore no Consumptive Person dares drink acid Spaw waters but at his peril, because of the Vitriolick Sharp Particles; and the rest of the *juvantia* and *nocentia* will show you the same. Thus much of the Cause, now to the Prognostick.

§. II. Prognostick.

Consumptions come especially between the Eighteenth and Thirty fifth Years of ones Age, because there is not only abundance of Blood in Young Men, but it is also sharp, because of abundance of Choler (wherefore mark what *Acorace* says,

*Non ego hæc tulissem calidus juven-
tâ, consule Blanco.)*

And the Vessels being filled with such Blood are easily extended, broken and corroded. A Consumption also is a Chronical Disease, and as in the beginning it is easie to be cured, so in progress of time it is incurable. Wherefore *Timæus à Guldenkleee* l. 2. Ep. 2. says very truly, *In all my Practice, and I*

have practised above seven and thirty years, I could never restore any one, that had an Ulcer in his Lungs, to perfect Health, though I have left nothing unattempted, that could any way conduce to the Cure of this Disease. For exulcerated Lungs are difficultly cured, partly because of the tenderness and rarity of their substance, partly by reason of their continual Motion, which hinders their consolidation, wherefore Patients often break into Invectives against their Physicians, because all Medicines in a manner have no effect. The case is the same in one that comes from fascination, and it is as hard to know, as to cure it, because the tabifick Poyson siezes a Man secretly, and oftentimes it is not discovered till the Disease be confirmed. And we may say the same of Love-Potions, for the harm is more easily prevented in the beginning, while the Ferments of the *viscera* are still good, than when it is gone further, and the tone of the *viscera* is not only thereby destroyed, but the Habit of the Body also is wasted, for which there is seldom or never any hope of Cure.

We must therefore follow the most prudent advice of *Galen* in all Consumptions. Let us predict their danger, and warn them of their end, and hereby we shall acquit our selves from all blame and disgrace. But above all things want of Appetite is bad in Consumptive Persons, especially if the *hypochondria* be puffed up with Wind, and the Stomach be swelled with a Mass of ill Humors, of which all that are Consumptive complain. Besides a slow, weak Pulse, with difficulty of Breathing, and a violent, cruel Cough, show, that

that Life is in danger. Also faintings, colliquative Sweats, Fluxes, and oily and fatty Urines, Convulsions and Cramps are most certain fore-runners and messengers of Death, according to *Hippoc. sect. 2. aph. 1.* In whatever Disease Sleep does disturb, it is mortal; but if sleep refresh, it is not mortal. Wherefore the disturbed sleep of Consumptive Persons, which does rather afflict than refresh, indicates the Consumption to be incurable. Hoarseness also (which yet I have observed two years in a Consumptive Person) does show that Death is not far off; also shedding of the Hair, a *delirium*, swelling of the Feet, and swarming of Lice signify that Death is in the Pot; a Consumption from old Age is also incurable. Consumptive Persons commonly dy when the Leaves do bud in the Spring, or when they fall in Autumn. Some of them, who have had one long, are taken with a cold Fit before their end, according to *Hippoc. Coac. prænот. f.* Stinking Spittle also denotes danger. An hereditary Consumption, and any that is thorowly fixt, is never cured. Death quickly follows a suppression of Spitting. But this must be observed in general, That in every Consumption, this purulent Spittle must be carefully distinguished, lest coagulated Serum be mistaken for Pus. On the contrary, there is some hope left, if the voided Pus be equal, of one colour, white, if easily raised, if the Patient be obedient, the Symptoms few and mild, the Strength and Appetite entire, and if the sharp, vitious Humor be carried by *metastasis* to the Lips or some of the Excretories, which Signs nevertheless are fallible.

§. 12. Dietetick Cure.

NOW having seen the nature of this Disease, we will endeavor, as far as is possible, to remove it, and attain the end of our Art, which is Health. We will begin with Diet, by means whereof alone some most grievous Diseases are cured, and without which Physicians do usually labour in vain. And it consists in the legitimate use of the six Non-naturals, so that what are hurtful may be avoided, and other more beneficial may be observed. The first is Air; and that which a Consumptive Man should live in, must be temperate, serene and mild, rather inclining to cold; a hot and dry, and an intensely cold one must be avoided. Temperate Cold and moisture is not amiss. The Autumnal cold Air is hurtful, for it destroys the Ferment of the Lung; wherefore a Consumption is reckoned by *Hippocrates* among Diseases that come in Autumn, because a cold Air taken in suddenly after the Heat of the whole Body, is a cause of divers Inflammations, and consequently of a Consumption. The case is the same, if it be impregnated with contagious and ill figured Particles, as *wolfgangus Hæserus* in his *Herc. Med.* has observed, how a Bricklayer was killed by the foresaid corrosive and sharp exhalations of Lime: so *Valerius Maximus lib. 9. c. 12. n. 4.* reports, That *C. Marius* ended his days by lying in a room, that had been newly plastered, and had a great fire in it. Miners and Refiners of Metals run the same fate, and metallick Mines are well known for this mischief, out of which there arise arsenical Spi-

rits (which *Heimont* calls *Gas Sylvestre*) that are very offensive both to the Lungs and Brain ; and also to them, who fall uninstructed upon the Secrets of Chymistry, and handle Antimonial and Mercurial things imprudently, because of the aculeated, volatil Particles of the Salts, which exasperate the Lungs. Contagion may also be referred hither ; for sufficient security cannot be given for them, who live familiarly with consumptive People ; as we have an Instance in a Woman, that was no way predisposed to a Consumption, and yet by lying by a consumptive Husband she died of one, you may find also other instances in *Riverius*. Wherefore prudent Physicians, when they must visit such Patients as these, do prudently provide for themselves, by holding some Alexipharmack Trochiscs in their Mouths. This Disease in some places, especially at *Hanover*, is endemick. Compare our *Theatrum Theriac. cœlest.* with what *Willis* says c. 6. de phthisi pulmonum. For upon some consumptive Persons, the influence of the Air is such, that the cause of the Disease may sometimes be wholly ascribed to the incongruity of the Air wherein they live ; and the change of Country or Air conduces more to the Cure than any Medicines whatever. Therefore most of the English, when they are troubled with a Cough or Consumption, flock over to the Southern Parts of France.

Meat and Drink act their share likewise ; Meat therefore must be of good Juice and easie Digestion, that the languishing and emaciated Body may recover Strength thereby. For which purpose Veal, Pigeons, Pullets, and Broths made thereof are proper, Hens-Eggs,

Crey-fish and Broths of them or of Cockles, Snails, Oysters, or Frogs are commended. Among Fruits sweet Almonds and Emulsions made thereof, Raisins boyled with Meat, Dates and Figs, (the eating whereof has cured many of Consumptions, as Practitioners testify) are good. Milk, above all other things, affords good nourishment for emaciated Bodies, especially if the Creature that gives it, be fed with Barly and other antiphthisical Plants, Womans Milk (if it can be had) is the best, Asses is next, drunk milk-warm, so those things be but observed in the Case, which we shall after prescribe. On the contrary, avoid all things that are acid, sharp, salt, bitter or viscous ; which last, though they are best able to inviscate the saltness of the Mass of Blood, and in that respect are good, yet they are apt to clog and glew up the small Vessels of the Mesentery, and stop the passage of the Chyle, so that the Body wastes, and therefore in this regard they are hurtful, as *Mollenbr.* in tract. de Arthrit. pag. 6. 13. testifies. Let Onions also, Garlick, Mustard, Leeks and all such things be avoided as hurt by a tabick Antipathy, of which nature the Sea-Hare is, as *Galien* and other Authors after him do say ; but I shall not vouch for them. All manner of Food taken disorderly, though it be of a good Juice, is hurtful, because it breeds Crudities, Obstructions and Inflammations. We must not also rely too much on sweet things, for they bear about them privately a morbose Acid, which when it is dissolved in the Body puts forth its sting, and by coagulating the Blood hinders its Circulation : therefore they take

an ill course for their Health, who abuse sugared things, especially Sugar of Roses, as is ordinarily done.

As for Drink, strong Beer made of Birchen Juice in the Spring is the best to recover lean, consumptive People. But because many cannot endure Beer, instead of it one may use a decoction of Barly with Raisins, or of the Woods, especially of Sanders and Brazile, or they may drink Whey, or Milk it self, in which Steel has been quenched. Generous Wine, not egre nor over hard, yet somewhat rough, drunk at Supper, strengthens the Stomach, and encreases the Spirits, and so contributes much to nutrition, especially in a Consumption from Age, or in any other, where the Animal Spirits are low. Yet a Man must avoid high drinking, and nightly good fellowship, especially where Men drink Wine, because it thins and sharpens the Blood, enrages and weakens the Spirits, and destroys the Tone and Fermentation of the Stomach; what wonder then, if Drunkards grow consumptive? Also drinking cold Drink, when one is hot may cause an Inflammation, and why not a Consumption? For all the Faculties that govern the Body are thereby disturbed, so that the whole Body cannot chuse but be disordered. *Aqua vitæ* also in this case must be avoided, as one would avoid Poyson; for indeed it is *Aqua Mortis*.

It is well known of what moment Motion and Rest are: for with any remarkable Motion of the whole Body, a violence and detention of respiration must necessarily concur, and by consequence the Circulation of Blood in the Heart is increased, and so being violently forced thence, it may easily break some

little Vessel or other: Thus I observed three by their preaching too loud fell into a Consumption. For in over violent Motion the Animal Spirits are also exhausted, whereby the Humors are rendered temperate and sharp, and often become the Authors of spitting Blood, and of a Consumption. Too much Rest likewise is naught, because it dulls the Humors, whereby is caused a Costiveness, Stoppage of the ordinary course of the Hæmorrhoids, and *menstrua*, and the Blood is rendered sharp and corroding.

Sleep and Watching must here be moderate, and according to *Septalius* his advice, a Man must sleep more than he wakes. The Belly must neither be too bound, nor too loose, but if it be costive, as in Consumptions it frequently is, it must be loosened by Solutives. All other Excretions also should succeed either naturally or artificially. Because, if there be a discharge of what ought to be retained, or a retention of what should be discharged, this Disease may easily ensue: For when the Hæmorrhoids or *Menstrua* are stopt, they do not seek a Passage by the hæmorrhoidal or uterine Vessels, but by those of the Lungs, and the *aspera arteria*; whereupon something may easily remain in the Lungs, putrefy, grow sowre and show its venom there. A suppression of Seed also may cause the same Disease.

The Passions of the Mind must be moderate, and Men must not indulge its Emotions; Care, Grief, Frightfulness, Fear, Anger, Love, too much use of *Venus*, Meditations, nor Night Studies: for all these things disturb the Animal Spirits, taint the Mass of Blood with heterogeneous Particles, stop and

Coagulate it, disturb Mens Faculties, and put all into confusion.

As to the natural Causes, a cholerick Complexion, which is easily put into a Heat by any of the six Non-naturals, is very subject to a Consumption; which Hippocrates seems to have had an Eye to, when he says, That the time of Youth, by reason of its cholerick Constitution, the great turgescency of Humors, and frequent Errors in Diet, is subject to this Disease. So also Women, because of their sedentary life, and Maids by strait lacing themselves according to that of Terence, *Juncea appareant, atque juvenibus placeant*, do easily contract this, and other dangerous Diseases of the Breast, because they stop the Blood in its Motion to other Parts,

§. 13. Pharmaceutick Cure.

THE Ancients take their Indications from three things. 1. From the Ulcer of the Lungs. 2. From the Fever. 3. From the extenuation of the Body; yet so, as to have due regard to the Symptoms, viz. the Fever, Catarrh, Looseness or Costiveness, Thirst and want of Sleep. For cleaning therefore the Ulcer of the Lungs, they use Preparers or Abstersives, both inwardly and outwardly; such as *Syrupus de hyssopo, de liquirit. capit. Vener. Medc.* Decoctions of Barly with Sugar, Figs, Raisins, Liquorice, Hore-hound. Outwardly they commend Cataplasms and Plasters of Linseed, Fenugreek, Marsh-mallow, with Oyl of Mallow, Honey, &c. Then they divert the Catarrh from falling on the Lungs by Clysters, Errhines, Blood-letting,

Frictions, Ligatures, Cupping, Issues and Bathings. Afterwards they advise such things as may stop the Matter from falling on the Lungs, such as Bole Armenick, *Terra sigillata*, Conserve of Roses, Sugar of Roses, *Diacodium* and other Opiates, such as Treacle and Mithridate. But in salt and thin Distillations, besides the things aforesaid, they commend the Decoction of *Guajacum*, Sanders, *China*, &c. Further, for Absterision of the Ulcer they use things that both purge a little and also expectorate, such as Syrup of Violets, Roses solutive, of Polypody, Manna, Lenitive Electuary, *diacassia*, Rhubarb, *Cassia*, Polypody, *Mel solutivum, passulatum*, &c. At last for the healing and cure of the Ulcer, they use such things as unite, consolidate agglutinate and breed a *callus*, and they try to do this by Driers and Astringents, such as Sugar of Roses, Bole Armenick, Foxes Lungs, Dragon's-Blood, Harts-horn, Juice of Plantain, Crabs-claws, Gum Arabick, *Diapenidium*, &c. But they prefer Milk above all these things, because by its serous part it cleanses, by its caseous Part it heals, and by its butyrous Part it asswages and moistens; concerning the use of it see *Septalius cap. de phthisi*, and my own Opinion hereafter. For the second Indication they use divers Moistners and Coolers, which shall be mentioned anon. For the third Indication, to wit for Emaciation, they use divers Waters distilled off Calves Livers and Lungs, Crabs and other viscid Animals; nor do they neglect restorative Broths, Gellies, Electuaries, sweet Meats, Syrups, &c. Of which and Externals, to small purpose, there is no scarcity in Authors. This was the old way.

§. 14.

BUt the Chymists, That they may remove the stoppage of the Lungs, and correct the hostile Spirit of Salt, whether it be coagulating, or dissolving and corroding, give Spirit of Tartar, *Salis dulcis*, Milk, Flowers and Balsam of Sulphur, Spirit and Oyl of Turpentine, Franckincense, Myrrh, &c. But for moderate Asthensions consolidation and strengthening they magnify Tincture of Corals, Liquor of Pearl, Essence of Saffron, and *Laudanum Paracelsi*; and above all they commend *Corallatum dulce Mercurii diaphoretici*, by which Medicine Paracelsus, as his Epitaph tells us, cured many Consumptions. Also to oppose this Disease they draw divers Tinctures from Gold, Silver, Pearl, Mummy, Humane and Swines Blood, Bawm and other pectoral Herbs. Paracelsus also maintains, that a Wild Mouse reduced to Powder and given is an excellent Remedy for a Consumption. He takes several things also from the Dietetic fountain, as Liquorice, Currans, Purslane, Lettuce, both sorts of Radish, red Betes, Pine-nuts, and all sorts of Mallows.

§. 15.

HElmont highly magnifies the foresaid Medicine commended by Paracelsus, namely *Corallatum dulce Mercurii diaphoretici*; and he adds Milk of Pearl, all which things by their eminent Balsam tinge the whole Body, and qualifie the innate Spirit of the Lungs, so that it abates of its fury. He does not condemn *Laudanum*. Moreover he says, That a large spoonful of

Colcothar boyled in Linseed Oyl, taken inwardly, as it cures all Ulcers, so that of the Lungs.

§. 16.

Utilis uses the three following Indications. 1. To assuage, correct and remove disorders in the Blood, from whence fluxions of the *Serum* do arise. 2. To derive all the Recrements of the Blood (which are apt to separate from it) from the Lungs to the Pores of the Skin, or to the urinary Passages, or to some of the Emunctories, or else to discharge what is gathered in the Lungs already. 3. To fortify the Lungs against the reception of *Serum* and other Humors, and also to guard them against excess of external Cold, whereby otherwise the Lungs might be hurt. For the first, that is, to appease the effervescence, and the subsequent dissolution, making a separation of the *Serum* and other Humors (since for the most part this depends upon some foreign Acid) things that break and correct an Acid are good; namely Diaphoreticks, inasmuch as they expel the superfluous *Serum*; also Aqueous things, inasmuch as they dilute the peccant Acid: for which purpose Pectoral Decoctions are commended. Take the Author's own Receipt.

Take of the greater Daisy one handful, cleansed Snails No. 3. Root of Eringo half an Ounce. Burnet three Drachms, Butcher's Broom two Drachms, Leaves of Ground-Ivy, Spleen-wort, Colts-foot each half an handful, Fenil Seeds half an Ounce, Currans six Drachms, Jujubs No. 6. Boil them

them according to art in Spring-Water. Sweeten the Decoction with Syrup of Red Poppy.

Also a Decoction of the Wood of *Guajacum*, *Sassafras*, all the Sanders, Shavings of Ivory, and Hartshorn is prescribed by him, as useful. To obtain the second Indication, namely to derive the Recrements of the *Serum* and other Humors from the Lungs, and to get out the tabick Matter, that already sticks in the Lungs, all sulphureous Balsamicks are good to which end he gives about 6 or 10 Grains of the Tincture of Sulphur of Antimony in some pectoral Syrup. He gives also 4 Grains of Balsam of Peru in Conserve of Roses, and several other things made with Oyl of Turpentine, and also Preparations of Gum-Ammoniack. The third Indication, namely the strengthening of the Lungs, or the amending of their hurt constitution, is answered by all such things as resist putrefaction, cleanse, heal and strengthen, for which purpose he commends all balsamick and traumatick Medicines made of Sulphur. He therefore advises the raking in the Fume of Sulphur by a Pipe or Funnel into the Lungs. In this case also he advises the change of Air, that is, from the City to the Country, where the Air is more Sulphureous by reason of Dung, and other stinking stuff. He sets much by other Fumigations also, such as these following, viz.

Take of Leaves of Hyssop, Ground-Ivy, white Horehound each two handfuls, Roots of Elecampane two Ounces, *Calamus aromaticus* half an Ounce, Seeds of Anise, Caraway each one Ounce. Cut

and bruise them. Boyl them in a sufficient quantity of Spring-Water. Let the Steam of the hot Colature be received by a Funnel, Morning and Evening for a quarter of an hour.

Another made of mere Balsamicks.

Take of *Olibanum*, white Amber, *Benzoin* each one Drachm and an half, Powder of red Roses, red Sanders each one Drachm. Mix them. Make a Powder. It must be strewed on hot Coals, and the Smoak must be received by a Funnel; Or,

Take of Gum-Ivy, Frankincense each two Drachms, Flour of Sulphur a Drachm and an half, Mastich one Drachm. Make Trochiscs with a dissolution of Gum Tragacanth.

The Author used these Trochiscs last prescribed in a Consumption, when it was beginning. Now we will proceed to his Cure of one confirmed, in which those Medicines do most good, that check the Heat of the Blood, that restore and gently assuage the Animal Spirits, and recruit the emaciated Parts; therefore for Food he commends the Milk of a Woman, Ass, Goat, or any other Creature, also Oatmeal and Barly-Grewel; and for Drink, Barly-Water, and Emulsions; He also advises the use of Pectoral Syrups and Licks, which may assuage the Inflammation of the Throat and Lungs, and facilitate Expectoration. The weak sort of Hypnoticks also, in procuring moderate Rest, do sometimes a great deal of good.

§. 17.

LEt us now see what *Sylbius* says. He divides his Cure into three Parts, namely, for a Consumption beginning, for one already begun, and lastly for one that is consummate and past hopes. Therefore his advice is, in this Disease, to use Medicines betimes, since a confirmed Consumption is rarely or never cured; and by all means he would have every violent Cough quickly stopt, but more especially in such as do encline to a Consumption. In a Consumption therefore that is begun, all the danger lies in the Ulcer of the Lungs, from which *Pus* is communicated to the whole Mass of Blood, whereby is caused not only a lingering, hectic Fever, but a mortal Consumption also. Now the Cause that maintains this Ulcer is, according to him, a Catarrh, and that sometimes salt, sharp and acid, sometimes mild and watry or viscid; or *Pus* communicated from some other place. In the beginning therefore he cures this Disease the old way, as if it were a Catarrh, and he endeavours not only to divert it, but he also corrects it; that is, when it is sharp, he cures it by Medicines, which temper that Saltness and great Acidity; for the attaining of which end he likewise prescribes Diureticks and Diaphoreticks, to temper the Acrimony of all Humors, which when they are tempered he carries off by Hydragogues; in this respect he likes Issues in the Neck, Arms and Legs, for abatement of the Humors; and he expects the same effect from Errhines and Sternutatories, which evacuate the vicious and redundant Humors by

the Nose, and at the same time divert them from the Lungs. For tempering the salt Humors that fall from the Head, he highly commends *Pilula de cynoglossa, de styrace*, and other such things, but Opiates above all. Moreover he cures a mild and watry Catarrh, by giving a gentle Sweat, or by fuming with Mastich, Frankincense, Amber, *Styrax*, *Benzoin*, &c. For the same cause he also sets a great value upon Decoctions of Roots and Woods; for instance, of *Guajacum*, *Sarsaparilla*, Sanders, Oak, Juniper, &c. But if the Catarrh proceeds from viscid Matter, he says, Incisers and Alterers are good; such as Gum *Bdellium*, *Sagapenum*, *Galbanum*, *Ammoniac*; and Mercurials also, as *Mercurius dulcis*, &c. He commends divers things to divert and evacuate *Pus*, when it is made in the Lungs, and in an *Empyema* he likes Tapping of the Breast. Then for cleansing of the Ulcer, he commends Roots of Elecampane, Birthwort, Leaves of Colts-foot, Scabious, Agrimony, Hyssop, Speedwel, Maiden-hair, Ground-Ivy, Vervein, &c. out of which divers Decoctions and distilled Waters may be prepared; he commends also the taking of three Drachms of *Venice Turpentine* now and then in Syrup of Violets. He also highly values raw Honey or Medec. Yet he prefers Balsam of Sulphur made with Oyl of Anise, Amber, Juniper, Turpentine or Nuts before all other things. Then for healing the Ulcer of the Lungs, he thinks a Decoction of red Roses does far surpass the Conserve, on this score, for that by the Sugar in the Conserve the Stomach and Guts are filled with Phlegm, whereby not only the Appetite is destroyed, but chy-

chyfication likewise is hurt; all the *terre sigillata*, Boles, roots and leaves of Saracen's Confound, Plantain, Sanicle, Winter-green and other vulnerary Herbs are good. But here it is observable, That our Author makes no great account of Flowers or Milk of Brimstone; for he confidently maintains, That he never found any laudable effect from them. For the Palliation of this Disease he prescribes many generous Remedies, which only mitigate the Symptoms and restore Strength. For discharging therefore of viscid Pus, which usually causes difficulty of Breathing, he advises inciding Medicines, as Decoctions and Licks made of Hyssop, Maiden-hair, Elecampane and the like, for which purpose *Balsamus sulphuris anisatus* is effectual. For the restoring of a decayed Appetite he commends 5 or 6 drops of *Elixir Proprietatis Paracelsi* given in Wine before Meal. Furthermore for reparation of Strength, he says, That besides Meat of abundant nourishment, and drinking strong Liquors and rich Wines, all aromattick things, as Ambergrise, *Confectio Alkermes*, or *de Hyacintho*, are good. Take this Receipt;

Take of Conserve of red Roses made but with little Sugar one Ounce, *Confectio Alkermes* two Drachms, *de Hyacintho* one Drachm and an half, Ambergrise three Grains, *Balsamus sulphuris terebinthinatus* half a Scruple. Mix them. Make a soft Electuary with Syrup of Coral, of which the Patient may take often the quantity of a Nutmeg.

§. 18.

According to Cartes his *hypothesis* Purgers, but mild ones, must be given in the beginning of this Disease, such as Syrup of Roses solutive, Rhubarb and Manna, but in the progress of this Disease they will have Bleeding and Purg- ing to be let alone. However for cleansing an Ulcer in a confirmed Consumption, and for healing it, they commend the following Decoction.

Take of Roots of Liquorice, Lovage each six Drachms, *Guajacum* cut two Ounces, Juniper Berries one Ounce and an half, Seed of Sermountain, Anise each three Drachms. Boyl them in a sufficient quantity of pure Water; add to the Colature of Syrup of Hedge-Mustard and Hyssop each three Ounces. Of this the Patient may drink a little Draught, twice or thrice a day.

They also prescribe divers Decoctions and distilled Waters. *Mercurius dulcis* also is good to heal the Ulcer, cohobated with Spirit of Wine *Helmont's* way, and Balsam of Turpentine; and all Antimoniates, which are fixt, and proper to dull, and take off those sharp, cutting Particles. To hinder over-much Coughing and Spitting, Opiates are very good, such as *Theriaca celestis*, *Theriaca Andernaci*, *Laudanum opiatum*, *Pilula de Cynoglossa*, &c. Finally, to rid the Lungs of the sharp Particles of the Pus all hard and ponderous things are proper, as testaceous things, Decoctions of the Woods, which have

have the Faculty of imbibing and altering the sharp Humors, *Mercurius dulcis* also, Bole-Armenick, *terra sigillata*, and several other things are commended, of which hereafter.

§. 19.

HAVING seen other Men's Opinions, we will now give our own. Since therefore we have made formerly the Cause of this Disease to consist in some sharp Acid, lodged in the Blood with some viscidty, at length corroding the Lungs, and quite coagulating and stopping the Blood, and thereby enraging the Spirits; it will be worth the labour to do all we can to correct the sharpness and corrosive Acidity of the Blood, for when that is corrected, a Consumption may as well be cured, after it is begun, as in the beginning. Now therefore let us enquire after the Matter of our Remedies, which is usually taken from three originals, *viz.* Diet, Chirurgery and Pharmacy. But a Chirurgeon can do little good in this case: for taking of Blood from a consumptive Person seldom does good, and we may well say with the Poet,

——— *Non defensoribus istis*
Tempus eget. ———

Borellus cent. 4. obs. 15. is of the same Opinion, for there he advises rather to infuse more Blood into consumptive Persons than to take any from them, especially if the Age be an obstacle. But when the Disease proceeds meerly from abundance and sharpness of Blood, bleeding is very proper before there be a corrosion of the Lungs. *Hip-*

ocrates gives us an instance of this, *l. 5. Epid. cap. 6.* who perfectly cured the Man in *Oenas*, consumed through abundance of Blood, after he had tried all other Remedies in vain, only by bleeding him in both Arms, till he had lost almost all the Blood in his Veins. I cured a Noble Virgin of such another Consumption, who, when she was nothing but Skin and Bones, upon taking only three Ounces of Blood from her, began to mend, and recovered her Health perfectly by taking a few Medicines. But we must go warily to work, for every one has not such success. Instead of Bleeding, Issues are good in the beginning and progress of the Disease: for several consumptive Persons, while their Issue was open, have been well, who upon the closing of it, have been ill. In Pharmacy those things present themselves in the first place, which evacuate the peccant and morbid Matter from the whole Body, and they are either Vomitors, Purgers, Diaphoreticks, Diureticks, or Alterers and Sweetners, which compose the Spirits, and hinder the coagulation of the Blood. As for Vomits, they are ever suspected in this case, but if it certainly appear, that the *viscera* are not infirm, nor the Lungs corrupt, if there have been no spitting of Blood formerly, and if the Stomach abound with peccant Humors, especially with bilious ones, if there be a squeamishness and disposition to Vomit, they bear the Bell from all other Evacuators: for more may be discharged at one Fit of Vomiting than at half a dozen Stools, if the strength will but bear it, and no other circumstances prohibit it: Otherwise Vomits cannot safely be given

given for fear of breaking the Vessels of the Lungs, and other Symptoms, as *Willis* well advises *Pharmaceut. rat. sect. 3. 13.* As for Purgatives, they likewise are not very safe, because they are not able to carry off the Acid, but rather encrease the Acrimony. Yet in the beginning we admit of them, for the discharging of bilious Particles, which reside in the first ways, provided they be gentle: for they that are inclined to a Consumption, at the beginning complain of a bitterness in their Mouth. We prefer before others Leaves of *Senna*, *Rhubarb*, *Prunes*, *Currans*; especially Decoctions and Infusions made of them, mixt with other Pectorals, which do consumptive People more good than Powders. *Rulandus* in his *Theatrum* cries up the following Potion.

Take of the Leaves of Alexandrian *Senna* one Ounce, Hyssop half an handful, Ginger half a Scruple, Sugar-Candy half a Drachm. Boyl them in a sufficient quantity of Wine. Let the Patient take three Ounces of this every day, till the Body is well purged.

If you meet with one that loves Wine, prescribe him a Physick Wine, made of Pectoral Herbs and Roots, and some of the forementioned Purgers. But I often fall upon the Enemy, before I give a Purge, that is, upon the Acid and the peccant Acrimony; for unless this, which is the cause of the Disease, be timely removed, whatever you do, the Patient is undone: And this Acrimony is removed by the use of Balsam of Turpentine, giving ten drops or more at a time,

by which I have cured some. But the best thing to correct the acid and sharp coagulated Filth, that troubles the Lungs and is lodged there, and to discharge and qualify the residue that is in the Mass of Blood, is our Pneumonick Balsam, made of volatil Spirit of Antimony and oylly things. The Dose is about five drops, I would have communicated it, as the principal Remedy in a Consumption, were I not afraid, it might fall into the hands of Empiricks, which swarm like Flies in Summer; yet I shall not deny the communication of it to the Skilful in our Profession. In defect of this our Balsam, especially if the Patient spit Pus, and the Physician suspect an Ulcer in the Lungs, this following will do good.

Take of Balsam of Turpentine, of *Pern* each one Drachm and an half, Oyl Olive fresh, of *St. John's* wort each one Ounce. Mix them, of which the Patient may take half a spoonful Morning and Evening.

But since Patients in this Disease are always cholerick, which is the reason why they cannot bear oylly things, this may be substituted.

Take of *Cyprus* Turpentine one Ounce, Honey of Roses six Drachms, Liquorish-Powder three Drachms. Mix them. Give the bigness of a Nutmeg in the Morning.

And for this very end I highly value *solutum Sulphuris, Elixir proprietatis Paracelsi, Wedelii Tinctura antiphthifica* made of *vitriolum Martis*

tis and *Saccharum Saturni* with Vinegar and Spirit of Wine; Or,

Take of Vitriol of *Mars* one Ounce, put it into an Ounce of Vinegar, poured upon red Lead, or into so much *Saccharum Saturni liquidum*. Let them stand a Night in digestion, afterwards evaporate them. Add of Spirit of Wine, what is sufficient. Make a Tincture, filtre it, and keep it for use.

Also sweet Vitriol, freed from all its acidity, is good; And this sweetness of Vitriol, depending upon its Sulphur destroys the corruption of Wounds and Ulcers. Likewise *Balsamus sulphuris anisatus*, or *terebinthinatus*, or *succinatus* is good, if the use of them be rightly understood, especially if the Patient be bilious; for the skilful D. Michael has observed that upon using them too much, People have fallen into Consumptions, and hectick Fevers. Medicines consisting of alkaline, volatril Parts are good in this case, because they imbibe and correct the peccant Acid; yet here we must be cautious. Antimonial Sudorificks are rather proper, which are fixt, and neither Purge nor Vomit; such as *Antimonium diaphoreticum*, *Bezoardicum minerale*, &c. Helmont's Medicine also made of Mercury is good, which is sweetened by frequent cohobation with Spirit of Wine. Those Hawkings and Spitings, that are raised out of the *aspera arteria* and the Lungs (of which Patients complain so much) and arise from a sharp Acid, which predominates in the Blood and *Lympha* about those Parts, are best cured by things that soak up the Acid, such as the *Antihæticum* and

Stomachicum Specificum Poterii, *fecula Bryoniae*, *terra sigillata*, Boles, Crabs-Eyes, red Coral, Dragon's-Blood, Myrrh, and many more things besides. This may serve for a Prescription;

Take of Crabs-Eyes prepared, Coral prepared each one Scruple, *Antihæticum Poterii* half a Scruple, *Pulvis anonymus*, Flour of Brimstone with Myrrh each one Scruple, Pearl prepared fifteen Grains, Sugar-Candy what is sufficient. Make it either into Powder, or for nice Constitutions, make it into Trochiscs.

I think it best to abstain from violent Medicines and Alkalines. A Decoction of red Brazile-wood is found proper to temper the saltiness of the Blood, and *Serum* in such as spit Blood and are Consumptive: Or you may use the following Decoction;

Take of the Roots of Smallage, Lovage, Colts-foot each one Ounce, rasped *Guajacum* three Ounces, Leaves of Colts-foot an handful, Flowers of Mullein two Pugils, Raisins of the Sun four Ounces. Boyl them in a sufficient quantity of Spring-Water; to two Quarts of the Colature add of Syrup of Jujubs two Ounces.

Waters which come off Sulphur are good. For I saw two Persons cured by them. When the Disease is confirmed, and the Patient is very lean, Milk (let some People say what they please) is the last Refuge: for by the serous part it is not only abstersive, but corrects the Acrimony of the Blood; by the caseous Part it consolidates; and by the butyrous Part

Part it heals and smooths. And it must be given in the Morning, fasting three or four hours before Meat, newly milked, from four Ounces to seven; and again in the Evening as you please, and the Patient can endure it (that is, according as we find the Strength encrease) always adding a little Sugar or Honey, that it curdle not and turn sowre on the Stomach. Woman's above all others, as it is most agreeable to Humane Bodies, does most conduce to the recovery of the Patient; for it is more subtil, penetrates sooner, and nourishes better than any other. Next to this, Asses Milk is most proper for a Consumption, as *Trallianus lib. 12. c. 4.* says: for it is reckoned to be cooler, moister and thinner, and not so apt to curdle as others. And it is easie of Digestion; which *Avicenna l. 4. tr. 2. c. 6.* confirms, where he says, That next to Woman's Milk there is none so good for Hectick People as Asses; for it cures an Hectick perfectly, if it be curable. Goats Milk also is good for a Consumption, but that it is too astringent. When I wrote this I had a Consumptive Taylor under my Cure, who was very much out of order and hot upon his drinking Goats Milk: but he found Cows Milk more agreeable and cooling. And I can impute this alteration to no other reason, but that he had been most used to Cows Milk. In a Milk diet this must be observed, That no vitious Acid be lodged in the Stomach, but, before any Milk be drunk, it must be got out thence by Absorbents; otherwise the Milk will curdle, and do more hurt than good. Also if there be a putrid Fever and a Looseness, Milk is naught. And the Creatures

which give the Milk, must not be with young: They must be fed with good balsamick and vulnerary Herbs. The drinking of Milk must be continued at least for three Months. There are many Vegetables also which inwardly cool and take off the Acrimony, and sweeten; such as Leaves of Endive, Purslain, Speedwel; Lettuce, Fumitory, Colts-foot, Thea, Chickweed, Violets, Flowers of Roses, Violets, Water-Lily, the four greater Cold Seeds, and all the Sanders; of which divers Medicines may be made. I shall give you some prescriptions, which will take off the Acrimony, and also cleanse and heal the Ulcer. But you must have a care that by too much cooling, you coagulate not the Blood, nor stop it in its Motion, and so hasten the Patient's death.

Take of *Sarsaparilla*, Roots of Fern, Colts-foot each one Ounce, Juice of Brooklime one Pound, Speedwel half a Pound, Colts-foot one Pound, Wall-Rue, Scabious, Winter-green each half a Pound, Water of Sanicle one Pound and an half, the best Cinnamon half an Ounce. Shred them and infuse all with the Spleen of an Ox newly taken out, and a Calf's Liver sliced, red Snails No. fifteen, for sixteen hours. Destil them according to art. Then add of Cinnamon Water one Ounce and an half, *Pulv. conf. Aug. cum saccharo* four Ounces. Mix them.

We use also to destil a Water off Oysters, Snails, Frogs and Crabs with Swine's Blood, which is very beneficial. If the Ulcer of the Lungs be new made by a Strain or Shot,

Shot, it may easily be cured with Vulneraries, especially with Powder of Crabs-Eyes. And this is what *Tachenius de morb. princip.* says. Wounds of the Lungs, which come from an external cause, and through some fault in Digestion, may be perfectly cured with vulnerary Portions; but not Ulcers, when they proceed from a decay of innate strength and radical moisture. Or you may use the following Decoction which check the Acid, that breeds the Pus in the Lungs.

Take of Root of Liquorish one Ounce, Dandelion, Colts-foot, *Scorzonera* each half an Ounce, Leaves of Scabious, Daisy, Colts-foot, noble Liverwort each one handful, Flowers of Scabious, Daisy, Colts-foot, Trefoil each two Pugils. Boyl them in a sufficient quantity of Common Water. Add to the Colature of *Syrupus de duabus* one Ounce. Mix them. Let the Patient take a Draught three or four times a day.

We have given the following Gelly, to nourish such as were weak; with good success.

Take of Shavings of Harts-horn four Ounces. Pour to it of Spring-Water three Pounds, of red Wine half a Pound. Digest them in a Vessel well stopt for twelve hours in a warm Place, then add of fresh root of *Scorzonera* half an Ounce, Cichory two Drachms. Set it by in the Cold in a Glass, that it may gelly. Thus the Head, Feet, Bones, &c. of Animals, which yield a Gelly, are good in a Consumption.

But when we find a great Heat of Blood in consumptive Persons, Emulsions made of the four greater and less cold Seeds, sweet Almonds, are good to allay it. To take away the Cough, which is the most urgent Symptom, these things are good, *loboch farfara*, of Fox Lungs, with Absorbents, such as Amber, red Coral prepared, *Antihæticum Poterii*, prepared Pearl, *Species diatragacanthi frigidi*, adding a little *Landanum opiatum*, whereby the sharpners of the Rheum, and the Cough may be stopt. Yea, the most experienced *Ettmullerus* testifies that after the use of Opiates consumptive Persons have often found themselves better, *Disp. de Opii vi diaphoretica* cap. i. §. 15. These are his Words, Certainly in Consumptions of the Lungs People find sensible benefit by Opiates, rightly administered, for thereby abundance of Filth is abated, not by suppressing it, but by preventing the breeding of it a-new continually; and being come to a better consistency, it is the more easily expectorated. And I have often admired how consumptive People could bear the constant use of Opium so long, yea for several Weeks, without any sensible harm or remarkable alteration: As *Crollius* likewise has long since observed in his *Basilica Chymica*. And they are the more grateful, because they procure Sleep, when it is much wanted. As for the stopping Colliquative Sweats, and loss of Seed, astringent Pectorals are good, such as *Saccharum Saturni*, *Vitriolum Martis*, *Antihæticum Poterii*. But the best Remedy of all in this case is *Wedelius* his *Antihætick Tincture*, made of *Saccharum Saturni*, *Vitriolum Martis*, &c. before mentioned: For it presently stops excessive Sweating and loss

of Seed, so that we pass by innumerable other Medicines, which are to be found in Books of Practical Physick. Besides the Remedies already enumerated, *sympathetick Cures* are often used in this Disease, the manner of whose operation, though it be obscure, the use of them is however sometimes successful enough. And this Mystery may in some measure be understood, from what the famous *Comenius* says, in *synops. physic. c. 10. in Append.* namely, That this proceeds from the consent of the Spirit that is in the Body, with that which sticks to the separated Matter, as he endeavours to make out by five Instances; the principal of which is, that sympathetick Cure, wherein the Wound it self is not cured, but the Weapon that gave it, or a Cloth, Wood or Earth dipt in the Blood, is anointed with the Salve, and yet the Wound closes and heals. *Hartman* has this Experiment following; Take an Egg, boyl it in the Patient's Urine, and then put it in an Ants nest, and let it ly there till the Ants have eaten it up. To which I may add another, imparted to me by a Nobleman; Dip a linen Cloth in the Patient's purulent Spittle, hang it in the Chimney, where the Smoak perpetually goes up, upon doing whereof, by a wonderful Sympathy, perhaps arising from consent of Spirits, it is found, that wonted Nutrition ensues, the Ulcer being healed by virtue of the Smoak. These Empirical Medicines are known to have worse success; first of all the Liver of a Wolf and an Otter, which an illustrious Person keeps as a great Secret; a Drachm of it must be taken in Powder for nine days. Another; Put Common-Salt into a piece of

Alder-wood, then burn it, let the Patient take the Ashes for a Month in some convenient Vehicle. Also, let the Patient every Morning eat a new Egg, laid by a black Hen, and continue this a Month and longer. Among these we may rank *Cardilucius* his Medicine, made of Horse-radish and Honey mixt together, whereby he boasts he has cured many. All consumptive Persons in a manner approve of Sugar of Roses, but I like it not so well, because of the Sugar that is in it, as I hinted before. Ground-Ivy powdered, and mixt with a little Sugar is good. Dry Figs are good, by eating of which I saw a Merchant's Son recovered and grow fat. *B. Beinson* that good Samaritan, before he died, imparted to me, as an excellent Remedy, the Roots of *Aron* mixt with Flowers of Sulphur. So the eating of Daisy leaves fried in Butter is counted good. But who is able to reckon up all. Now follow the External Remedies, which are of use in a Consumption. Therefore beside the things already mentioned, Fuming is good to heal the Ulcer: The Vapour of a Decoction of vulnerary Herbs, (wherein there is an excellent Virtue to take off Acidity by the occult *alkali*, wherewith they are impregnated) may be taken in at the Mouth by a Tabaco-Pipe; or *Dr. Bennet's* way, by a Funnel. *Dr. Dorel*, an experienced Practitioner at *Frankford*, told me before he died, That he had cured a perfect Consumption by this way of Fuming. For the sake of younger Physicians I shall give you some Receipts;

Take of Root of Birthwort, Colts-foot each half an Ounce, Comfrey

frey three Drachms, Rasplings of *Guajacum*-wood one Ounce and an half, Leaves of Hyssop, Speedwell, Scabious, Lungwort each half an Ounce, Mallow, Marsh-Mallow each two Pugils. Boyl them in Spring-Water, and while the Decoction is hot, let the Patient receive the Steam that comes from it. Or,

Take of Root of Colts-foot one Ounce, Frankincense, *nigella*-Seed each one Drachm, Turpentine boyled, dried and powdered half a Drachm, *Styrax* one Drachm, Cinnamon half a Drachm. Make a Powder for a Fume; or make Trochiscs with Mucilage of Linseed and Marsh-mallow-seed, and put them on Coals.

But among Externals I highly value the application of the following Plaster to the Breast;

Take of odoriferous yellow Wax one Ounce and an half, the best Turpentine six Drachms. Melt them on the fire, then add of Oyl of Turpentine two Drachms, Anise half a Drachm. Mix them. Make a Plaster according to Art. Or,

Take of *unguentum rubrum potabile* Travelling.

one Ounce, *resumptivum* half an Ounce, *crocus Martis* three Grains, Oyl of Anise, Fenil each six Drops, Turpentine half a Scruple. Mix them. Put them in a Pot, to anoint the Breast.

To anoint the Chine or Backbone this following is good;

Take of *unguentum Resumptivum*, Oyl of Frogs, of Worms each half an Ounce. Mix them.

We make Issues also with good success. But if none of these things be available, we must have recourse to infusory Chirurgery, as to the last Remedy. *Ettmullerus* advises to make Infusion of an Essence made of vulnerary Herbs and Sassafras-Wood, with Spirit of May dew. Or let transfusion be made of a healthy Man's Blood into the sick Man's Veins. Also in a desperate case, if the Disease have its rise from plentitude, tapping will not be amiss, if the Patient be strong and courageous, and have a mind to leave nothing untried. *Van Horne* in his *Microtechnie*, shows the way of it. Travelling also for change of Air and Diet is adviseable: for I knew three cured of this Disease by so doing. The famous Doctor *Sydenham*, my good friend, commends Travelling.

C H A P. V.

Of Spitting of Blood and Apostems, called Empyema and Vomica.

§. I.

Hitherto our consideration has been about a Disease, in which Blood is gathered about the *Pleura*; now we will proceed to the consideration of one, where the Blood is cast out of the Vessels of the *aspera arteria*, and for the most part, of the Lungs. It is called *Hæmoptysis, cruenta sputio*, or Spitting of Blood, and it is all manner of voiding of Blood at the Mouth, generally evacuated out of the Branches of the *aspera arteria*, that pass to the Lungs; as in a *Vomica* and *Empyema*, there is usually a bringing up of purulent Matter at the Mouth. The first of these is frequent enough, and the Blood, that is got out of the Veins, is sometimes voided with a gentle Cough, and sometimes without: for the sanguiferous Vessels are divided into many small capillary Branches, through which the Blood is carried very rapidly, and so, because of its Discreasy, and too great Effervescence ensuing thereupon, may open the Mouths of the Arteries,

make a Breach, and dissolve Continuity; which being done, Spitting of Blood must of necessity follow. Besides, this Disease is the Author of many bad and tedious Diseases, and proves the beginning of a Consumption, *Empyema* and *Vomica*. Blood indeed may be voided at the Mouth, and come from several Parts; namely, from the Head, Nose, the inside of the Lips, Gums, Palate, Tongue, *uvula*, Jaws, *aspera arteria*, Tonsils, Lungs, Branches of the *aspera arteria*, Weasand, Stomach, Liver, *Pancreas*, Spleen, Womb, &c.

Names.

But we are here minded to treat of that voiding of Blood, which proceeds from the Lungs and Breast, which *Hippocrates* in *Aph.* 29. §. 3. calls *ἱμαῖος πύσις*, Spitting of Blood, and *Galen* de *comp. med.* *ἱματός ἀναγωγή*, Voiding of Blood; others call it *cruenta sputatio*, *sputum sanguinis*, *hæmopteica passio*, *cruenta per os rejectio*.

Difference

Difference.

Here we must observe carefully, and distinguish well, whether formerly the Patient used to bleed at the Nose: For from thence it often runs into the Stomach, Throat, yea, and sometimes into the Lungs, but then it grows thick and turns to Clods. If therefore any one spit Blood, and used not to bleed at the Nose, it must necessarily come from some Part below, which may be known by particular Signs, as may hereafter be seen in the Diagnosticks. For the differences of voidings of Blood must be duly observed; the Blood owzing into the *Larynx*, does after a little tirillation in the *aspra arteria*, arise into the Mouth without coughing and insensibly; but if the evasation be out of the Lungs or other Parts of the Breast, then frothy Blood is voided by Coughing; if out of the *plexus* of the Vessels, then it is voided in less quantity, at certain times, and mixt with coagulated *Serum*; if out of the Stomach or *Pancreas*, then there is squeamishness, and it is voided as it were by Vomiting, without Coughing.

Empyema.

An *Empyema* is called an Apostem, or corruptly an Imposthume, and differs from spitting of Blood, because in an Apostem mere *Pus* is brought up without violent Coughing, in the other pure Blood. Again, an *Empyema* is bred privately in the Lungs or in some other Part of the Breast, and neither it nor a *Vomica* show themselves, till they kill the Patient, as *willis Sect. 1. cap. 2. de pulmonis Vomica*, has observed, as well as I.

Likewise an *Empyema* usually follows a Peripneumony and Spitting of Blood. So we have known several, who, upon the breeding of a *Vomica pulmonis* insensibly, its ripening and then breaking, have spate abundance of fetid *Pus* for several Weeks, yea Months, and at length being thereby weakned have died Consumptive. For when a Suppuration is raised by an Inflammation about the *Pleura*, and at last the Apostem breaks, the *Pus* that falls into the Breast, breeds this Disease, and by long continuance there, it stinks filthily, and therein differs from the Spittle which is raised in a Peripneumony or a Consumption. This is confirmed by what I lately observed in an Imperial Soldier, who grew Empyemick after he had been shot through the Breast; during the Disease, he was troubled with straitness of Breast, and difficulty of Breathing, and also with Spitting; when he was near Death, he rattled exceedingly. When we opened his dead Body, in the Cavity of the Breast, and indeed on that side where the right Lobe of the Lungs is, we found eight pounds of ichorous, putrid and stinking Matter, which was not yet turned into *Pus*. Therefore one might very well call this a watry *Empyema*. This also there was observable, that one Lobe of the Lungs, through which the Bullet had passed, was healed to a wonder in six days, as if it had been a new piece of Lungs; but the other Lobe continued still hurt and perforated, undoubtedly because of abundance of putrid Water, that stagnated there.

Vomica.

By a *Vomica* they mean Blood insensibly gathered, not in the substance of the Lungs, but in a membranous Bag, at length turned to *Pus*. *Sylvius* takes that for a *Vomica*, in which the glandulous Tubercles, be they greater or less, together with the Lungs, turn to *Pus*, and are contained in a Membrane of their own, all which by degrees tend to suppuration, and then to a Consumption.

§. 2. *Part affected.*

THE Part affected in this ternary of Diseases, is sometimes the *Parenchyma* of the Lungs, sometimes the Vessels, and sometimes the Membranes or Vesicles of the Lungs, which are either opened, or burst, or eroded, or so rarefied, that in an *hemoptysis* (in which we rake every sanguiferous Vessel for the Part affected) the thinner and more serous part of the Blood may owze through the Coats, also the Blood Vessels about the Ribs. And in an *Empyema* and *Vomica* you shall ordinarily find purulent Matter about these Parts, in such as have died of this Disease.

§. 3. *Diagnostick.*

NOW that we have considered the Part affected, let us hasten to the Diagnostick; where first of all we must take notice, That Signs of a sharp Blood always precede this Disease, that is, Heat, Thirst, Itching, and other such things. If the Spitting of Blood proceed from the Gums and Mouth it self, the Blood is of a fresh co-

lour, but little in quantity, and without Coughing; the Solution of Continuity is here often manifest to Sense. If it proceed from the Jaws or *aspera arteria*, then the Blood is got up by Hawking, not by Coughing; and Solution of Continuity appears in the said Places, if the Tongue be depressed with a *Spatula*, or any other chyrurgical Instrument. If Blood come from the Head, it has first been heavy and aked, there has been a tingling of the Ears before, and at present there is an Effervescence or Commotion of Blood, as you may see in Fevers. I my self in a Quartan Ague often spare a little Blood, without any suspicion of a Consumption; for in the Hawking it up, one may easily know, Whether it come from the Head or Lungs. If it come from the Lungs, then the Blood is frothy and florid, and then it is always brought up with a Cough, but without pain, and that at Intervals. Whenever Blood is voided upon the breaking of a great Vein or Artery, it comes in great quantity, without any precedent Cause observable, and is forced up as it were by Vomit, so that sometimes whole Basons are filled with it. But if it come from erosion of any Vein in the Lungs, which is often caused by a sharp Humor dilacerating the cingent Membrane, then it comes by degrees at certain Intervals, and not in such abundance, unless, as was said before, some great Vein or Artery be eroded, for then it is voided in abundance, and usually kills the Patient, as I observed in two Maids. If the Blood proceed from the *aspera arteria*, it comes with a little Pain and Cough, it is brought up red and hot, and but a little of it. But if it come from

from the Stomach, it is without Coughing, and rather by Vomiting, and it would be in great quantity, but that it is brought thither from other Parts, and is kept there a while, by reason of its grumescence, before it be voided. If it come from the Liver or Spleen, or lower Belly, a dull Pain uses to afflict those Parts, and the Blood is brought up by Vomiting. It is a very hard task to distinguish from which of all the foresaid Parts the Blood doth come, but here the difficulty is surpassing: for the difference can never be exactly known by certain Signs. This indeed I think is evident, That Blood discharged into the Stomach, by the Spleen and *Pancreas*, is grumous and enclining to black; such as a Citizen of *Hanover* voided, which being so qualified the Physicians there present took for the *parenchyma* of the Spleen, ridiculously and ignorantly enough, blaming the Laxity and Distension of the *vasa brevia*, through which this *viscus* might come to the Stomach: but since this Citizen a little while after was troubled with the like Excretion of Blood, and notwithstanding is yet alive, and troubled with the Spleen, undoubtedly we must judge otherwise. Now and then also Blood is spit up, through the opening only of some very little Vein, as it happens in a hot course of Diet, and then it is voided in a small quantity at the beginning, and it is thin and red. But if it come up stinking, mixt with *Pus*, and that with a violent and frequent Cough, it is a sign of a Consumption, concerning which see the Chapter foregoing. As therefore all voiding of extravasated Blood by the Mouth is easily ob-

vious to sense, so to know certainly the place, whence it comes, is a hard task, and few there are,

quos equus amavit
*Juppiter, ac ardens evexit ad aethera
virtus.*

These were the Signs of an *hæmoptysis*. now we will briefly consider those of an *Empyema* and a *Vomica*. An *Empyema* or Suppuration is so called from the *Pus*, in which abundance of purulent Matter is brought up by Coughing, there is difficulty of Breathing, and it usually follows a Pleurisy, or Quinsy, or *Hæmoptysis*, or a Wound of the Breast or a Blow. This cut-throat carries his Weapons concealed, hoarseness also attends it, Patients find an oppression in their Breast, a Fever never leaves them, the Pulse is quick, the Appetite destroyed, the *Pus* that is voided, stinks (wherein it differs from the *Pus* of consumptive Persons) the Eyes are hollow, the Cheeks red, especially three hours after eating, the Nails are crooked, and sometimes the Feet swell, which and other Signs of *Empyemick* Persons *Hippocrates* *l. 2. de progn.* does excellently delineate. In a confirmed *Empyema* a fluctuation of the peccant Matter and a sense of trouble upon the Motion of the Body is perceived: for the Patient cannot well ly on both sides. Sometimes he can get no sleep, but is thirsty and disquiet all over his Body. The Signs of a *Vomica* are commonly the very same with these; yet at first they are private, so that Physicians can have only some suspicion. But always, as I said before, Acrimony of Blood preceeds these

Diseases, which may be gathered from many Tokens.

§. 4. Causes.

ANd now the Causes come under our consideration, the knowledge of which is most necessary for Physicians: because when they know these, they can better give Remedies good against the Disease and its Causes. *Fernelius* says excellently well, *l. 1. Pathol. c. 11.* Diseases without the knowledge of their causes can neither be prevented, nor successfully cured. But the search of them is here very intricate, and clouded with many difficulties. Because among so many different Judgments, a Man knows not whose to follow.

The old *Galenists* Opinion about the Cause of an *Hæmoptysis*, or Spitting of Blood, is, That generally it is caused by too great quantity and Acrimony of Blood, whereby, they conclude, the Mouths of the Vessels must necessarily be opened. And they prove this by the good Habit of Body, which breeds Blood, immoderate use of hot Meats and Wine, suppression of the *Menses* and the like. And they will have this Blood to come out, either by *anastomosis*, or *diæresis*, or *diabrosis*, or *diapedesis*. An *anastomosis* may easily be caused by abundance of Blood, or by its thinness and watriness, as by all things which kindle and enflame the Blood, such as are running, leaping, riding, and the like violent Exercises and Motions. Wherefore the Ancients do blame violent Coughing, laborious Vomiting, loud Crying, Anger and other Heats of Mind and Body, as remote Causes of this Disease: for they say, That

by these things the Blood may easily be heated and attenuated, the Orifices of the Vessels may thereby be opened, and so it may be extravasated. The Ancients understood it to be a *Diæresis*, when the Vessels are perforated, cut, contused or burst, which Solutions of Continuity are called Punctures, Cuttings, Contusions or Ruptures. By a *Diabrosis* they mean this case, when the Vessels and Lungs are eroded by any sharp things, whether Humors, Meats, Medicines, Drink or a salt Catarrh fall from the Head upon the Organs of Respiration. They mean a *Diapedesis*, when the Coats of the sanguiferous Vessels are so rarefied, that a thin Blood, such as a cholerick, and sometimes a serous or watry one is, may easily owze through them; but they confess that spitting of Blood seldom comes this way. Their cause of an *Empyema* is *Pus* filling the Chest, and doing much harm by its Stench and Acrimony: they hold, it often comes from the breaking of some preceeding Apostem, of a Quinsy, Peripneumony, &c. And they say it may be done thus, namely, if these Diseases end in suppuration, and the *Pus* be poured into the Cavity of the Chest, or if crude Swellings be by Costion turned into a *Vomica*. They hold also, That an *Empyema* may be caused by a Catarrh falling upon the Breast, and not purged by Spitting within fourteen days; believing also that Matter may flow from somewhere else, as from the *Abdomen*, and may get thither by blind Passages; and they have this reason for it, That in Hydropick Persons the same *Serum* finds a way to the Chest, and then the whole Breast swims with serous Humors,

as Coughs in Dropsies and voiding much Water do testify. Then by a *Vomica* the Ancients understand a Tubercle and Abscess lying some where in the substance of the Lungs, in which case the peccant Matter is enclosed and wrapt up in its proper Pellicle by Nature (who is a provident Mother) lest the sound Part should be infected, till the sharp Humor eat through the Pellicle, and pour the Matter contained in it into the Breast, and so cause an *Empyema*, a Consumption, or sudden Death.

§. 5.

NOW let us consider the Chymical genealogy of this Disease. They blame in this case, sharp, corrosive Salts, destitute of any mixture of more benign and mild ones, which predominate in the Vessels of the Lungs, corrode the tender Membranes of the pneumonick Veins or Arteries, or open them, and so produce pernicious Inundations of Blood. For, that such sort of Salts are actually in Bodies, they demonstrate by several Experiments, which my Business will not allow me further to insist on. But as to an *Empyema* and a *Vomica* they maintain that such kind of Ulcers come, when a separation is made of the Salt of the internal Liquor, or of the Balsam which preserves each Part from Putrefaction, adding, That in the breeding of *Pus*, the Sulphur, which should be coagulated, is kindled and dissolved.

§. 6.

Helmont wholly ascribes the Cause of these Diseases, to the Pulmonary *Archeus*, enraged either by the Blood, being burthensome both in quantity and quality, or by *Pus*. Now if the Excrement be not expectorated, but hardened, then occasion is given to an occult *Vomica* or a Consumption, as *Helmont's* zealous Disciple, *Grembs in Arbor. ruinos. l. 2. c. 1. §. 9.* and *Helmont* also himself in *tr. delirament. catarrh. p. 275.* do say. At length the Air does further dry the oppilating Mucilages, after which new products appear, which in process of time contract Acidity, Acrimony and Malignity, whence come these doleful cases, *Vomica*, Erosion of the Vessels, Spitting of Blood, Consumption and Death.

§. 7.

Ullis places the Cause of these Diseases in the Acrimony, Dyscrasy, and too great Effervescence of the Blood, which open both the pneumonick Vessels and the tracheal Arteries, and so dissolve Continuity: for the Blood being sharp, and gathered principally about these Parts, may of it self easily open the Mouths of the Arteries, and eat through them, and so cause a spitting of Blood. And sometimes Blood that is too thick and apt to coagulate, when it cannot readily be received by the Veins, must of necessity run out, as we see it does in the Scurvy, pestilential Fever, Small-Pox and Poyson. And thus spitting of Blood arises from the Bloods being either too thin or too thick. An hereditary

tary indisposition of the Lungs contributes very much to this Disease, according to our Author. Among the more remote causes he reckons the suppression of the *menstrua* or of bleeding at the Nose, or any other way, excess of Heat and Cold, &c. for when the Blood is too hot, and when transpiration by the Pores of the Skin is stop'd, then it rages more violently, and often bursts out of its Vessels, upon which presently there follows an *Hæmoptysis*. So if it turn into purulent sharp Matter, then an *Empyema* or *Vomica* breeds.

§. 8.

Sylvius, the Glory of *Leyden*, blames the breeding of too much fluid Bile in spitting of Blood, which is too sharp; and when mixt with the Blood, causes a greater effervescence, and opens the sanguiferous Vessels of the Lungs, whether they be opened by a too great distension of the Vessels by the abundance, rarefaction or retardation of the Blood, or by wind, or by contusion with some hard or sharp thing, or any other way. And in a *Vomica* and *Empyema*, he blames the great quantity of Blood, falling out of its Vessels into the cavity of the Chest, and because of its Acidity there turned into *Pus*.

§. 9.

Artes and his followers, think, that this Inundation of Blood can arise for no other reason, but that the subtil Matter has communicated a different Disposition to the Blood; for all preternatural Effervescences and Commotions of the

Blood arise from that. Moreover they take all Particles, which either smite, or corrode, or penetrate, or provoke, and so make holes and dissolve Continuity, when they are enraged with this preternatural Effervescence, to be the cause of this Disease. In a *Vomica* and *Empyema* they will have purulent Matter to be the cause, and they derive the dull pain, which afflicts People in this Disease, from the Mals of Corruption, that lies upon the Nerves, which are but very few in the Lungs.

§. 10.

NOW having considered other Men's Opinions about the causes of these Diseases, that the case may be the more clear, we will give you our own. We ascribe the cause immediately to the violence of the Spirits, which hurries the Blood about, and extravasates, when it is too sharp. Our Body is like a Water-work or Engine, which is moved by the Liquor within it, *i. e.* the Blood, as the excellent *Reiseli*us chief Physician of *Wittemberg*, my ingenious friend, who has erected an eternal Monument to his Name, by exposing his *Humane Statue* to the Learned, has demonstrated this Motion to the Eye. The perfection of the Engine, and the Motion of it are good or bad, according to the diversity of this Blood, arising from the variety of Fermentation and Particles. Now the intestine Motion and Agitation (which we call Fermentation) of the Particles, that make up this purple *Nectar*, is governed by a twofold Salt, an acid and a volatile *Alkali*, by the concurrence of which being dissolved, and there acting

acting one upon the other, the rest of the Particles also are too much moved and agitated. For the mutual Action of those two Salts one upon the other, may be seen with our Eyes, and is manifest enough. When this is kept within due bounds, all goes well, but when it is disorderly, then alas, what impetuous effervescences, what storms and inundations immediately fall upon our Bodies! But how calm, how safe is all, when the Blood is appeased and amicable, when the vital Ferment in the Heart, impregnated with vital Spirits, is in good order! This Ferment, the excellent *Ettmullerus* shows to be radicated in that point of the Egg, which is salient, because of the saline volatility of the animal Spirits: And he proves, That as in the Kitchen of Chylification the chief Cook is of an acid volatil Nature; so in the Work-house of Sanguification and Fermentation renewed in the Blood, the Operator is a volatil and luminous Salt. And, to say all in a word, I am of the very same mind with *Ettmullerus* before said, That the disposition of the Blood depends upon the condition of the two Salts, a volatil Acid and *Alkali*. For the saline virtue raises that Fermentation and Circulation of Blood, as Baker's Leaven raises the Dough and makes it porous. I thought fit, by the way, to say something, how the Fermentation of the Heart is performed in a natural state, that it might be better understood how it is spoiled in a preternatural one, since contraries compared illustrate one another. These things therefore supposed, it is plain, That the Blood may be made either too sharp or

fluid, because the fermentation is spoiled, or through some defect of one or the other Salt. It is therefore most assuredly true, That spitting of Blood, if not always, yet for the most part, proceeds, either from too great fluidity of Blood, or abundance of Serum, or from a Salt both volatil and sharp, which not only puts the Blood into fusion, but rends, pierces and eats through the containing Vessels, and by its sharp Particles in process of time, tears the little Fibres of the Arteries and Veins more and more, and makes further breaches. Continuity also is dissolved by too great Motion of the Blood, (whence soever that proceeds) whereby the Blood bearing too imperiously on those or these Fibres, and they not giving way, breaks the texture of them. Continuity also is dissolved, when the Blood is carried violently at one push through Vessels that are of a tender frame, or too strait for so much Blood, and dilates the Fibres, and so it gushes out at the breach. Without doubt therefore we may reckon the Enemy's head quarters to be about the pneumonick Vessels, whence the Blood, stimulated with these Provocatives, and got out of its enclosures, enters the cavity of the Lungs chiefly, like a head-strong Horse, and since it raises trouble there, irritates the Fibres and solicits them to eject it: if it be not timely discharged thence, it cannot otherwise chuse but grow sharp by continuance there; and so the Spirits, that should temper the rest of the Particles, must be dissipated, which is the reason why, upon the dissolution of the Sulphur also by the great acidity, that destructive stench

stench arises in an *Empyema* and a *Vomica*. And in what Diseases an Acid begins to prevail, the volatil Particles ever and anon flying away more or less, and heterogeneous ones thereupon coming in their room, *Empyema*'s and other Abscesses must arise thence. For it is manifest from what we said before, that *Pus* is bred of a medley of several things, which by continuance do contract still a more and more acid Ferment, and upon combination of this with the Sulphur, it at length grows white. We, as well as *Sylvius*, *Helmont* and *Paracelsus*, do blame an Acid in *Pus*; and Blood is not concocted into *Pus*, as the *Galenists* were of opinion: For no Man dare say, That red Blood taken by venesection, though never so much concocted or boiled by the strongest fire, will ever turn to a white Matter, such as *Pus* is. Therefore, to be brief, we derive an *Empyema* and a *Vomica* from sharp and acid Blood, turned into *Pus*, and gathered in the Cavity of the Breast.

§. II. Prognostick.

Now in order we come to the Prognostick, where we will search what hopes there are of the Patient's safety. But we will carry *Seneca's* advice along with us, lib. 6. de benef. cap. 16. That a Physician ought to be concerned for his Patient, and for the Credit of his Skill, which undoubtedly is at stake, when an unhappy Prognostick puts the Physician to the blush. All voiding of Blood therefore upwards, according to *Hippocrates* l. 4. aph. 25. is reckoned bad; so he observes, That this Disease is familiar to young People, sect. 3. aph. 29. And

in another place he mentions, That frothy Blood coughed up, comes from the Lungs, sect. 5. aph. 12. An Ulcer of the Lungs has much danger in it, because Suppuration and a Consumption must certainly be expected: for the Lungs are very difficult to heal, because of their continual Motion. Moreover in this spongy Part, such as the Lungs are, the corruption not only clings faster, but it easily passes out of one Vesicle of the Lungs into another; wherefore it must needs be, That the Lungs, so constituted, must day by day be more and more exulcerated, Respiration hindred, Heat encrease, and the Body consume. According to *Juvenal Sat.* 6.

———— *Grex totus in agris
unius scabie cadit & porrigine porci.*

For it is not so bad, if upon the breaking of an Artery or a Vein in the Lungs, the Blood be voided presently; as if it fall upon the substance of the Lungs, be kept there, and so cause an Inflammation, and then after long continuance, that is, the spirituous Particles flying away, if it should putrefy and at last corrupt and exulcerate the substance of the Lungs. There is imminent danger from the breach of a great Artery in the Lungs, upon which the Heart must necessarily be suffocated by the abundance of evacuated Blood. For sometimes the Blood is poured out in such plenty, That even whole Basons, and great Vesicles are filled with it in a short time, and the Patient, (who as he in *Virgil*,

———— *crassum vomit ore cruorem.*)

In a moment pours out his Soul,
with the Blood its seat, as appears
from the German *Ephemerides*, Ann.
X. p. 309. Spitting of Blood fol-
lowing spitting of Pus threatens
danger: For it betokens an Ulcer
in the Lungs, of which abundance
have died, according to that of the
Poet;

*Cernis ut è molli sanguis pulmone
remissus*

*Ad Stygias certo limite ducat a-
quas.*

But if the Blood come out of the
Breast, and it be agreeable to the
Nature, Age, Climate, Constitution,
and Season, the Disease is not so
dangerous: for in young Women
I have observed spitting of Blood,
upon the suppression of the *menfes*,
which ceased upon their coming.
But spitting of Blood for a conti-
nuance, and which will not yield
to proper Medicines, turns to a Con-
sumption, as lately I observed in a
Maid twenty Years old, who was
troubled with spitting of Blood, and
then with heaviness of Heart, a
Cough, and other very ill Signs, she
went into Consumption. But if a va-
letudinary or scorbatick Person spit
Blood, the case is more dangerous,
than if one stronger and not scor-
butick should do so. In a word,
the Wounds of the great Vessels of
the Lungs are usually mortal, but
Wounds of the less, and of an *Em-
pyema* are often cured, as *Sylvius*, c.
20. l. 1. §. 44. testifies. Neverthe-
less we need not always fear spit-
ting of Blood, since now and then
it preserves the internal *viscera*, as
the Liver, Spleen, &c. As one says,
*spitting of Blood is often critical, and
sometimes it delivers from great Di-
seases.* Vomiting of Blood also with-

out a Fever is wholesome; but
with a Fever it is accounted a per-
nicious Sign, according to *Hipp.*
sect. 7. aph. 37. But a Hiccough or
Convulsion after Bleeding portends
ill. Blood which owzes out of the
trachea often portends no ill. Also
a violent Head-ach according to
Hippocrates is sometimes cured by
bleeding at the Mouth. Thus much
of the Prognostick in an *hemo-
rrhysis*.

Our divine old Man reckons up
many unlucky Signs in an *Empy-
ema*, that is, that it usually kills in
seven days, and those that escape,
become purulent. But they that are
empyemick after a Pleurisy, ought
to be purged within forty days af-
ter the breaking, and then they are
safe, otherwise if it stop, they grow
consumptive. If they be feared or
cut, and the Pus run pure and
white, then they escape. If the
Fever abate not, but is less in the
Day and more in the Night, if there
be much Sweat, and desire to
Cough, but nothing brought up,
if the Eyes be hollow, the Cheeks
red, the Nails crooked, Hands hot,
if the Feet swell, if Loathing and
Squeamishness afflict any, if Pustles
arise all over the Body, such are
suppurated, and it is a Sign of sud-
den death. Empyemick Persons on
the mending hand, when they are
almost purged, and seem quite out
of danger, if they spit stinking
stuff they relapse and dy, accord-
ing to *Hippocrates in Coacis*. You
may also reckon it a fatal Sign, when
the Pus colours Iron as if it had been
in the Fire: for that betokens
death, because it denotes extreme
Acidity and Extinction of the vo-
latil Spirits. So, if in this case
there be a hectic Fever, difficulty
of Breathing, an oppressive pain

in the Breast, a weak and frequent Pulse, with cold Sweats, a waiting Flux, and frequent Faintings, then the Patient is gone. According to *Hippocrates* they are out of danger, in whom, the same day that it breaks, the Fever ceases, their loathing of Meat, and their Thirst leave them, so that they go little to stool, the Pus is white, smooth, all of one colour, without Phlegm, and is brought up without pain, and with a gentle Cough, also all the other Symptoms, which were violent at first, abate a little: for then a recovery may certainly be expected, because they are Signs of Health, which quickly free a Man of his Disease. But if the excrementitious Stuff be not expectorated, and harden in the narrow winding Passages of the Lungs, it is a sign of an occult *Vomicæ*, and of a Consumption.

§. 12. Dietetick Cure.

THE Nature of the Disease, and the Signs of it, being found out, according to the best of our skill, we think meet to allot some of our pains to the cure. The alteration of Diet is a thing of great moment in this case, 2. *aph.* 45. Therefore we must seek relief from thence. The Air then must be temperate, rather inclining to Cold; on the contrary, a hot one must be avoided, because of the aculeate and subtil Particles of Salts, which it carries, that are injurious to the Lungs and their Vessels; and an intense cold Air may be put in the same predicament, which alone may be sufficient to make an Ulceration and Solution of Continuity by its rigid Particles and stagnation. Consult *Willis* in his Chapter of a Consumption. The Patient

must also avoid the Raies of Sun and Moon and a South-wind. But in an *Empyema* the Air must incline to driness. The Meat must be cooling, and endued with an emplastick or glutinative Faculty; that is, it must be viscous and glutinous, such as Milk, Barly-Cream, Calves-feet, Kids-feet, Ising-glass, Rice-milk; and *Simon Pauli* in his *Quadripartit. Botan.* p. 232. highly values such a sort of Grewel made of Starch and Wine. In an *Empyema* dry things are proper, such as Pigeons, Partridge, Rabbits, Small-birds, saxatil Fish, Grey-fish, &c. Here also Pine-Nuts (recommended of old to such as spit Blood by a Table hung up in the Temple of *Æsculapius*) are often made use of. Sowrish Fruits are given to such, Prunes, Pears, Quinces, Medlars, &c. to which purpose we recommend Lettuce, Endive, Cichory, Daisy Flowers and the Herb, &c. So we reject Meats hard of Concoction, sharp, salt, peppered, spiced, very sweet, such as have an occult Acid in them (as all sugared things have) which are very hurtful in these Diseases. The ordinary Drink must be small Beer made of Oaten Malt, well boyled; the extraordinary must be a small red Wine, Mede, Barly-Water, Emulsions of Almonds, Goats-Milk (by which alone *Trallianus* brags, how he cured one of spitting of Blood;) on the other hand a Man may not touch any rich strong Wines, whether Rhenish or Spanish. In the animal Function Sleeping and waking must not exceed the bounds of Moderation. Too much Motion, especially of the Breast, shouting, laughing and singing must be avoided: for no Man will deny, but that an incurable Rupture of the Vessels of the Lungs may be caused thereby; also

also leaping, playing at Ball, riding on Horseback, or in a Coach, &c. may contribute to it, all which things are acted with too great commotion, and may force out the blood. The *Excrements* of the Belly must be voided either by Nature or Art every day; so the *Menses*, bleeding at the Nose and Hemorrhoids, must have their due course. Let the Patient keep himself from all violent *Passions* of the Mind, and rather compose himself. But above all things let him avoid Anger, so the Daughters of Anger, brawling, contention, frettings, &c. must be avoided. For all these things according to the great *Sylvius* do pour a Volatil Bile into the mass of blood by the Hepatick Duct, found out by him, and so cause a greater effervescence of the blood, which first occasions these dire effects. But according to us Anger makes the Animal Spirits rebellious. *Venus* and Bathing are nought for the same reason, because they stir the blood, and put it in a rage, which often kindles these Diseases.

§. 13. Pharmaceutick Cure.

NOW I am minded to go to the other part of the Cure, where in I shall observe my old course, and steer by the Compass of the *Antients*. They in the fit of an *Hæmoptysis* open a vein in the Arm, perhaps twice or thrice in a day, or in tender people, they bleed in the foot, especially, if it arise, as it often does, from the suppression of the *Menstrua*. Then they divert the motion of the blood, by cupping, ligatures, leeches, and frictions. These things premised, they

cool the Blood or Bile with Preparatives, which with a little Astringent restrain the fluidity of the Blood; such as Syrup of Sorel, Roses, Myrtles, Quinces, Juice of Pomegranates, Water of Sorel, Roses, Plantain, Purslain, &c. So, as they see occasion, they carry off pituitous, and cholerick and sharp humours, mixt with the blood (which are causes oftentimes of a breach in the Veins, sometimes of erosion, and by consequent of spitting blood) by proper Evacuators, such as Rhubarb with Myrobalans boyled in Plantain water; also *Cassia* new drawn, Syrup of Roses, stewed Prunes, and such gentle things. After these things they use Medicines to stop the fluidity of the Blood and the violence of the Bile, and also to incrassate its thinness, which they call binding Medicines, such as are Trochiscs of *terra sigillata* given in Plantain water, Syrup of Pomegranates, Myrtles, Quinces, Conserve of Roses, burnt Harts-horn, all the *terra sigillata*, Bole Armenick, *Balaustia*, Mastich, Gum Tragacanth, Arabick, Plantain, Purslain, Knot-grass, *diatragacanthum frigidum*, red Coral, Juice of Plantain, Barberries, and many more things that are well known, of which Medicines may be made agreeable to the Palate of the Patient. In the beginning they will not use Narcoticks; but when they have used other things to no purpose, and the Disease grows upon them, they fly to Narcoticks as their last refuge, but then the Patient must have strength. And if they apprehend by the bloods being black and clotted, that it falls from the Head upon the Lungs, they do not give Astringents inwardly, but rather order such

such Medicines as dissolve and discharge extravasated and coagulated blood, such as Mather, Crabs-eyes, *unguentum rubrum potabile*, *spermaceti*, &c. In an *Empyema* and *Vomica*, if suppuration of the matter gathered in the breast cannot be stopt, then they promote it by Emollients and Ripeners, to which end they use divers Medicines inwardly and outwardly. And among these they reckon for an *Arcanum* the Juyce of ground Ivy, three Ounces of which with two Ounces of Juyce of Horehound they make into a Lohoch, and add of Frankincense, and Myrrh each one drachm, *Diapenidium* half a drachm, and so mix them, then they give water of Mallow and Hyslop. Externally they make use of Plasters and Cataplasms of Figs, roots of Marsh-mallow, Raisins, Flower of Linseed, Fenugreek and other things made up with Emollient Oyls, of which *Riverius*, who is as good as all, discourses very accurately. Their last Remedy is tapping the Breast, which some of them do between the third and fourth Ribs, others between the fourth and fifth, reckoning from the lower upwards, by a potential or actual Cautey, and so by degrees evacuate the matter contained in the Chest insensibly, and then they absterge by certain Decoctions taken by the mouth and injected into the wound, by which Operation almost all the Ancient Practitioners boast how they have cured several.

§. 14.

HAVING done with the Galenical Cure, we will now go to the Chymical. And the Chymists

prescribe such Medicines as take off the sharpness of the Salts, which open the Veins and Arteries, smooth the parts, and restore the natural Balsam to the Blood; such as are all sulphureous and antimonial Balsams, especially the milder sort, which are of great use in Ulcers or Apostems of the Lungs. *Paracelsus* himself *Chirurg. minor. libr. 2. pag. m. 56.* confirms this, where he says, That Antimony yields an excellent Medicine for Ulcers, for such a mercurial Liquor contains more virtue in it than all Pearls, &c. because Gold, which is accounted the highest Secret and Remedy, receives its Cure and Health from it. They also use other Diaphoreticks. Exclusion of Pus in an *Empyema* is promoted according to their Method, by Oyl and Spirit of Turpentine mixt with Flowers of Sulphur. For *Paracelsus* calls Turpentine the external Balsam, because of its great healing virtue; yet there are some who prefer Spirit of Vitriol before it, namely because it cleanses purulence, but it must be used with much caution. Thus *Paracelsus* boasts, how he cured a noble Woman of an *Empyema*, by giving her Oyl of Sulphur in Sow-bread, Bawm, and Betony-water. So *Crollius*, a Paracelsist, greatly commends Spirit of Tartar and Salt, for removing of these Diseases. He writes also, that Salt of Corals, Oyl of Cinnamon, and Cloves, Treacle-water, but especially *saccharum Saturni*, are Remedies against putrefaction: and where the case is desperate, he gives three or four Grains of *pulvis sperniola compositus* in some Water of Shepherds-purse.

§. 15.

§. 15.

Helmont and his followers in spitting of Blood take the following course. First the Patient must keep himself quiet; and that the Blood may not run so fast to the Lungs, *Grembs*, a true disciple of *Helmont*, advises strong ligatures on the Hands and Feet; and to stop the Flux of Blood he commends Syrup of Corals mixt with *crocus Martis* in the manner following;

Take of Syrup of Coral two Ounces, *Crocus Martis* two Drachms. Mix them for two Doses.

The same Person commends Rice boiled in Water or Milk, wherein Steel has been quenched; and for the ordinary Drink he commends Emulsions of Almonds; and for the extraordinary, Quince-Wine mixt with Steel-Water. At length, when the red Spitting is stoppt, and the *Archæus pulmonaris* (as his Phrase is) the author of Spittle, makes mucous Excrements, then he gives Milk with Steel quenched in it, to appease the furious Spirits, and deterge the Excrements; it must be taken five hours after Meal. But Milk must not be drunk constantly, because it nourishes too much, and fills the Breast with Phlegm. But in a *Vomica*, if the *Pus* turn sowre, and the Blood apostemize, those things are proper, which we mentioned before in the Chapter of a Peripneumony.

§. 16.

Now we will proceed to *Milis*, who, in an *Hæmoptoe* of the Lungs, has these curative Indications.

ons. 1. Presently to stop the Flux of Blood. 2. To heal the Solution of Continuity that is left in the Lungs, without a Consumption. Now Medicines stop the Flux of the Blood (so that it runs not to the Part affected) which diminish the quantity of the Blood, and check its Estuation, and retard its too violent Motion; such as are various Juleps, for instance, this following;

Take of Water of Water-Lily, Plantain, Purslain, Oak Buds each three Ounces, Blood-stone, Dragon's-Blood each half a Drachm, Sugar-Candy as much as will sweeten it.

To this end he highly commends a Solution of Common Vitriol or of *Mars* in fair Water, used either outwardly or inwardly to stop all manner of Bleeding. Venesection also, Ligatures and Frictions are good; and after all these things have been tried to no purpose, he gives gentle Narcoticks, especially Diacodiates, because by stopping the Motion of the Heart they abate the Fermentation of the Blood. Then for healing up the opened Vessels, he prescribes divers astringent, glutinating and healing Medicaments, in form sometimes of a Lick, sometimes of a Decoction, sometimes of a Powder, sometimes of Pills; This is a good Prescription for making a Decoction of Vulneraries and Balsamicks;

Take of Leaves of Mouse-ear, Plantain, Sanicle, Wild-Daisy each one handful, Flowers of red Roses half an handful, French-Barley half an Ounce, Raisins one Ounce; boyl them in four Pints of Spring
X Water

Water, add to the colature of Vitriol of *Mars* half a Scruple, Syrup of Coral what is sufficient. Mix them.

Another Prescription;

Take of Dragon's-Blood one Drachm, white Poppy Seed half an Ounce, Blood-Stone, Crabs-eyes, red Coral each half a Drachm, Sugar of Roses one Ounce. Mix them for a Powder to be taken at several times.

The Drink must be a Decoction of *China* and *Sarsaparilla* mixt with other pectoral things. In an *Empyema* he advises cutting or opening the Side, and in such as are fearful and tender a Caustery between the sixth and seventh *Vertebra*; when a hole is made, a silver Pipe must be put in, by which the *Pus* may be let out of the Breast at several times, lest it stink, and the Patient might lose his Strength. After these things are done, some traumatick cleansing Liquor may be injected by a Syringe. As for internal Medicines he commends divers vulnerary Decoctions, or half a Drachm of the following Powder to be given twice a day.

Take of Powder of Crabs-eyes two Drachms, Flowers of Sulphur one Drachm; *Sal prunelle* half a Drachm. Mix them. Make a Powder, or make them up with a little Turpentine into Pills.

The rest of the things which must be given in this Disease and in an Apostem of the Lungs before cutting, are in a manner the same, which we mentioned before in this Author's Judgment of a Peripneumony, whither I refer my Reader, and now we have done with *Willis*.

§. 17.

Sylvius, to allay the Heat of the Blood, which is often violent in this Disease, uses acid and austere things namely Housleek, Plantain, Sorel; so he likewise commends spirituous oily things, to take away the Acrimony of the Humors, and sometimes, if there be occasion, Opiates. Then for healing the broken Vessels, he commends his well known Mixture which follows;

Take of Water of Plantain two Ounces, Cinnamon two Drachms, destilled Vinegar half an Ounce, red Coral prepared half a Drachm, Dragon's-Blood half a Scruple, *laudanum opiatum* two Grains, Syrup of Myrtles one Ounce. Mix them.

This Mixture taken a spoonful at a time will cure most breaches of the Vessels. For the same end he orders Bleeding either in the Arm or Foot. So for correcting the salt or acid Humors, that flow either from the Head, or from any other place, he commends Opiates and mild Aromaticks. But in a case, where the Spitting of Blood proceeds from the Inflammation and over-thinness of the Blood, whereby the pneumonick Vessels are stretched till they break, you must presently bleed, and temper the Blood with cooling Juleps. Here is a Receipt or two.

Take of Barly-Water twenty Ounces, Syrup of Violets two Ounces, Oyl of Sulphur, as much as will give it a grateful Acidity. Or,

Take

Take of Seeds of Melons, white poppy each alike what is sufficient, with Water of Plantain, Colts-foot each what is sufficient. Make an Emulsion, and sweeten it with Sugar-Candy, what is sufficient.

In a confirm'd *Empyema* the alteration of Blood into *Pus* must be promoted which emollient and maturing Medicines will do, such as Roots of white Lily, Leaves of Marsh-mallow, Orache, Mercury, Linseed, Fenugreek, also divers Oyls, Fats, &c. This may serve for a Cataplasme.

Take of Root of Marsh-mallow one Ounce, white Lily half an Ounce, Leaves of Mallow, Marsh-mallow, Pellitory of the Wall each half an handful, Flowers of Mullein, Melilot, Violets, Chamomil each two Pugils, Linseed, Fenugreek each half a Drachm, Fat, dried Figs No. six. Boyl them either in Water or in Milk, and if the Heat be very high, in Butter-Milk: for all People cannot bear fat things, as a few days since I observed in a Man of fourscore, who upon anointing outwardly with fat things fell into a Swoon.

When the Abscess is ripe, we must presently proceed to get out the *Pus*, lest by continuance there it grow sharp; wherefore tpping the Breast must not be procrastinated, but yet we must have a care, that we take not all the *Pus* away at one time, but at several; and when way is made for the *Pus*, we must proceed immediately to the cleansing and healing of the Ulcer; to which purpose our Author says

Balsamus Sulphuris anisatus or *terebinthinatus* is admirable good, if it be dropt into the Sore, and five drops or more of it may be given inwardly.

§. 18.

According to the Cartesian Hypothesis, to take the edge off these acute Particles, or saline Prickles, that are in the Blood, and are so ready to cut and open all sanguiferous Vessels, especially the Pneumonick, and so cause spitting of Blood; and for cooling of the Blood, all gentle Balsamicks made of Oyls and mild Spirituous things are good; and so are all watry and cooling diluters. Take the following Julep for an instance;

Take of water of Plantain, Shepherds-purse each one Ounce and an half, Syrup of dried Roses one Ounce, *Lapis junelle* three drachms. Mix them, make a Julep.

They commend all ponderous things for depressing the Volatil, such as Bole Armenick, red Coral, *terra sigillata*, and a thousand such other things. For correcting sharp and salt humors, and stopping the Effervescence of the Blood, according to them Opiates are good, especially *Pilula de cynoglossa*, *de Styrace*, but above all *theriaca coelestis Hanovienfis*. These are the things that are good in spitting of Blood. From what has proceeded a Physician of any discretion may know of himself what may be used in an *Empyema* and *Apostem*. It remains therefore that we produce our own opinion.

§. 19.

Formerly, when we spake of the Cause of these Diseases, we said something of the natural Fermentation of the Blood, that we might be better able to discourse of the preternatural, when we had considered its contrary. The Excretion therefore of Blood is either increased or diminished: for when the Spirits and Blood are, as naturally they should be well dipped, and do their Office, a man is said to be in health and brisk; but when either this fermentation in the Heart fails or exceeds, the Pulse either upon the interception of the Animal Spirits, or upon their too great afflux, ceases, respiration ceases, and at last follows the most terrible thing in nature,

—*Mors, ultima linea rerum.*

For upon this Fermentations being augmented in the Heart, a great commotion of the Blood in the Arteries and Veins arises from thence, and thereupon an Excretion and Spitting of Blood. Now since for the most part an even and gentle Fermentation depends upon a most exact combination of a two fold Salt, of an urinous and acid, or of an alkali and acid, then upon failure of one or both of these a rage and heat is raised either in the Mass of Blood, or in the animal Spirits themselves; for if you inject an alkali, namely Oyl of Tartar, into a Vein of any Creature, after it is dead, the Blood will appear fluid and thin, and so too much dissolved; on the contrary, if you inject an Acid into a Vein, namely Spirit of Nitre, after

it is dead you will find the Blood coagulated: But it is our greatest difficulty to know, whether the Blood break out of the Arteries, or the Veins. Now since there are many arguments, and those very strong ones, that it comes from the Arteries, especially because the arterious Blood differs from the venous on account of Consistency, and the arterious Blood is more thin and subtil by reason of abundance of Spirits, and therefore is more prone to evasare, their Opinion is very credible, who blame the Arteries; yet hitherto I can see no reason, why we may not hold, That Blood may come from the Veins, especially if we consider, That in the Veins the Pores are more open, that is, greater: besides, they are furnished but with single Coats; on the contrary, the Arteries with double ones, so that here a breach is more difficult. However it be, let every one make the best of his Opinion, we will proceed to the Cure it self. In all Excretions of Blood therefore, be the Cause what it will, if nothing contra-indicate, we bleed either in the Arm or Foot, especially in Women, who have not their *Menses*, then we restrain and stop the remaining Blood, and last of all dissolve what is coagulated. All the Mystery of stopping the Blood consists in its momentaneous coagulation, namely, That the coagulated Blood in the opened pneumonick Vessels may close their Lips and Wounds like a crust, and so may hinder the Blood from coming out, which very thing, both acid and austere things and heavy ones also do promise. But it must be observed, That according as sulphureous or serous Particles abound, so we use to give either Rhubarb alone,

lone, because it both binds, and carries off the sulphureous bilious Particles, to the quantity of one Drachm in Plantain Water; or if *Serum* also abound, we mix some Jalap with it: for violent things must never be given, because they encrease the Motion of the Blood, and so by their violence distend the Vessels, and either encrease the Flux of Blood, or if it be stopt, endanger the breaking of it out again. If there be a Cacochymy in the Blood, let the Patient be quiet for some days, that in the mean while the Vessels may heal, before it be purged off. This may serve for a Prescription.

Take of French Barly two Pugils, scraped Liquorice two Drachms, Raisins one Ounce. Boyl them in fair Water. Add to the Colature, as much Sugar as is sufficient. Or,

Take of *Cassia* new drawn, Conserve of Peach-Flowers each one Drachm, the best Rhubarb half a Drachm. Mix them. Make a *Bolus*. Or,

Take of Water of Cichory, Colts-foot each one Ounce and an half, Extract of Rhubarb half a Scruple, Powder of Rhubarb one Scruple, Jalap sixteen Grains, Syrup of Cichory with Rhubarb half an Ounce, Tincture of Roses one Drachm. Mix them.

Then for stopping of Spitting and all Excretions of Blood, and for qualifying the luxuriant Blood and enraged Spirits, both diluted with too much *Serum*, and disturbed with the intestine Tumult, and so breaking violently out at the Mouths of

the Arteries and abounding with too much of a sharp volatil Salt, or an Alkali, we commend serous or aqueous diluting things, such as the following;

Take of Water of red Roses one Ounce and an half, Plantain five Ounces, Tormentil two Ounces, Syrup of Myrtles, Pomegranates each one Ounce, Spirit of *terra sigillata* half a Drachm. Mix them. Put it in a Glass, for several times taking.

In exceeding difficult cases we must have recourse to Narcoticks; and for this purpose these are very good, Camphore, *requies Nicolai*, *laudanum opiatum*, *theriaca Cælestis*, &c. But if the Blood be deprived of its due consistency, and be disturbed with the Orgasm raised by the animal Spirits rushing impetuously into the Heart and Arteries (for when the Mouths of the little Arteries are burst, and once way is made, the Blood gushes out with violence) then we use to incrassate and coagulate with *Sylvius* his mixture already mentioned, or with one following like to it;

Take of Water of Purslain, Plantain, Ground-Ivy each one Ounce, Juice of Purslain one Ounce and an half, Bloodstone half a Drachm, Crabs-eyes one Scruple, *laudanum opiatum* two Grains, Syrup of Coral one Ounce. Mix them. Or,

Take of Water of red Roses, Tormentil, Shepherd's-purse each one Ounce and an half, Vinegar of Roses one Ounce *species diarrhodon Abbatis*, *diatriion Santalon*

X 3 each

each one Scruple, Dragon's-Blood, *terra sigillata* each half a Drachm, Syrup of Mirtles one Ounce. Mix them.

But in a case where the Acid is deficient, and rather an Alkali, or sharp volatil Salt has the predominance, either in the Spirits, or in the Blood (as any one may see in the Plague and other malignant Fevers, the malignity of which Diseases consists in a volatil Salt exalted to the highest pitch of sharpness, in which spontaneous profusions of Blood very often hasten the Patients end) for the incrassating and coagulating this attenuated Blood, besides Acids, by which this volatil Salt, infamous for its Acrimony, is conquered and depressed, nothing is found more proper than the following *arcantum*, which never failed us;

Take of crude Alum, Vitriol of Mars, *saccharum Saturni* of each equal Parts; pour to them of Vinegar, Liquor of *terra sigillata*, Spirit of Vitriol each alike quantities. Prepare it according to Art. The Dose is from ten Drops to thirty.

There is another styptick Liquor made of *terra Martialis*, which will fail no Man. Things good for this purpose are Tincture of Bloodstone, especially ours, which shall be mentioned hereafter, Tincture of Coral, of *terra Japonica*, of Sulphur, of Vitriol, to the quantity of of sixty Drops. Spitting of Blood often arises in the Scurvy, which may easily be cured, by adding convenient Antiscorbuticks, especially in Whey. For dulling and fix-

ing the lixivious volatil Salt, and for correcting and tempering the Acrimony of the Blood, and restoring its consistency, and that upon account of their Oyl or Acid, or volatil oily Spirit, we commend Emulsions of the four greater and less cold Seeds, white Poppy Seeds, adding a few Almonds for the Tastes sake; for which end Opiates are good, and *laudanum opiatum*, that stout conqueror of the animal Spirits, especially *theriaca coelestis*, *sulphur minerale* fixt by art, for these things have a great virtue in fixing the sharpest Salts and furious Spirits. Then for closing the opened Vessels, and glutinating the minute Fibres of the Arteries and Veins, moderately astringent and glutinous Vulneraries are good, for which purpose we recommend the following Decoction;

Take of the Leaves of Ladies mantle, Speedwel, Sanicle, Yarrow, Agrimony each half an handful, Roots of Comfrey, Liquorice, Tormentil each half an Ounce, Flowers of Daisy, wild Pomegranate each two Pugils, Pine-nuts half an Ounce, red Saunders, three Drachms, Crabs-eyes one Ounce, boyl them in six Pints to the Consumption of a third part. Or in the form of an Electuary.

Take of old Conserve of Roses two Ounces. *loboch de psyllio* one Ounce, Conserve of Comfrey half an Ounce, *pulvis stypticus Heurnii vel Crollii* one Drachm, Crabs-eyes prepared half a Drachm, Syrup of dried Roses, Mousse-ear each what is sufficient. Mix them, make an Electuary.

Emulsions

Emulsions of Almonds are also good in this case.

Take of sweet Almonds blanched three Ounces, four greater cold Seeds, Poppy each half a Drachm, with Barly-Water make an Emulsion. Add of *saccharum perlatum*, as much as will sweeten it. Or,

Take of Water of Yarrow, Speedwel, Shepherds-purse each one Ounce, *pulvis stypticus Crollii* half a Drachm, Seeds of white Henbane fifteen Grains, Syrup of Comfrey one Ounce. Mix them. Or in form of a Powder, to procure tenacity to the Blood,

Take of *pulvis anonymus* half an Ounce, Henbane Seeds, Crabs-eyes each one Drachm. Mix them. Make a Powder of several Doses, Or,

Take of red Coral, Pearl prepared each one Scruple, Gum-Arabick, Tragacanth each two Drachms. Mix them. Make a Powder for seven or eight Doses, and take two of them every day. Or,

Take of *Syrupus de symphyto Fernelii*, Syrup of red Poppy, of white Poppy each one Ounce, *laudanum opiatum* two Grains, Water of Speedwel one Drachm and an half. Mix them, and take it by spoonfuls.

Also Asses Milk with Steel quenched in it, is commended, because Chalybeates bind without obstruction. *Balsamus sulphuris terebinthinatus* or *anisatus* used outwardly or inwardly, to five drops, will conduce much to the healing the Vessels of the Lungs, we commend

the styptick Tincture of the English and an Infusion of Oyl Olive into the Veins of the Patient, as generous Remedies. As for Apoplems of the Lungs, in them (that is, in a *Vomica* and *Empyema*) if there be no Fever, we highly value all sulphureous Medicines, such as Tincture of Sulphur, *balsamus sulphuris terebinthinatus*, the Samaritan Balsam, made of two Pounds of Oyl Olive, three Pounds of white Sugar, and two Pounds of Wine, also our universal Balsam, made a certain way out of Antimony. That also of Digby's is not amiss in a *Vomica*, to wit, an Apple filled with Frankincense, then roasted and eaten. The same Author also recommends to country People a Dish fit for their Tooth, that is, Horse-dung boyled in white Wine, and then eaten, Juice of Cresses is highly valued by *Cardilucius* in this Disease, but you have only the Authors word for it, I never yet in my Practice tried it. But when all these things do no good, if the Breast be filled and stuffed with great store of purulent Matter, we must have recourse to Tapping of the Breast (whereby I have seen several cured) but with this caution, that we use to do it with a Cautery between the sixth and seventh *Vertebra*, and then we let out the purulent Matter by little and little through a silver Pipe. And when this cruel Remedy is used, it is a good sign, if the *Pus* do not come out fetid, for then we may hope well of the Patients recovery; in the mean time we use to drop in some of the foresaid *balsamus sulphuris anisatus* or *terebinthinatus*, and we give five drops or more inwardly, if there be occasion. For the ordinary drink we commend

in this case the following vulnerary Decoction.

Take of *Lapis sabulosus* three Drachms, Leaves of Ladies-Mantle, Water-creffes, Saracens confound, Golden-rod each one handful, Speedwel one handful and an half, Liquorice-root scraped one Ounce, Daisy-Flowers half an handful. Mix them. Make a Decoction in Water. Or,

Take of a Decoction of Barly, Leaves of Plantain and Brook-lime or Water-creffes three Pounds, towards the latter end let half an Ounce of *Sal prunella* be added.

Then we use to conclude the cure with divers Precipitaters, such as Crabs-eyes, Coral, &c. Nor are we willing to neglect divers external things, both Unguents and Plasters. Let this be a Receipt;

Take of Oyl of sweet Almonds, Chamomil each half an Ounce, Poppy two Drachms, Saffron half a Drachm, Wax what is sufficient. Mix them. Make an Unguent, wherewith to anoint the Breast. Or,

Take of *Emplastrum diachylon cum gummi* one Ounce, Powder of Cumin-seeds, Florentine *Iris*-root each one Drachm, Saffron half a Drachm. Mix them. Make a Plaster.

When these things will do no good, the Physician must drive before the Wind of divine Providence.

In spitting of Blood that applauded Liquor of *de la Vigne* the Frenchman will be proper, *i. e.*

Take of Alum, Vitriol each one Drachm, Phlegm of Vitriol one Ounce, let it boyl till the Contents be dissolved, then let the filtrated Liquor be sharpened with a few drops of Spirit of Vitriol. Or,

Take of crude Alum half a Drachm, *terra vitrioli dulcis* one Scruple, Phlegm of Vitriol a little sharpened with Spirit of Vitriol one Ounce and an half, or two Ounces. Mix them.

But the Spirit of Wine rectified by it self, externally applied, is better than all these things, because all fluid Blood, even while it is hot and fresh, uses presently, to the beholders wonder, to coagulate with it; and, which is a thing not yet known to all Philosophers and Physicians, Spirit of Wine it self may easily be coagulated into a dry Powder, a thing which I have often done. Knot-grass tied to the Armpits, is said, presently to stop Blood, as also a Toad well dried and held in the hand. Let the traumattick Essence be given out of the Fit twice or thrice a day, to threescore drops; and if any Blood be spate still, then it must be mixt with Tincture of Sulphur of Vitriol. Or,

Take of Essence of Flowers of St. John's-wort, Crabs-eyes each three Drachms. Mix and give it.

CHAP. VI.

Of the Palpitation of the Heart.

§. I.

WE are yet about explicating the nature of Pectoral Diseases, among which the Princes of our Faculty do with other Diseases of the Heart, reckon, the Palpitation or Leaping of the Heart, which the Greeks call *παλμὸς καρδίας*.

Description.

And this Disease is described to be, a *convulsive Motion*, having its rise from *vitious or bilious Blood*, or from a *too sharp diluted Serum*, preternaturally contained in the *pericardium*, which *vellicates the Heart and nervous Fibres of the Arteries*. In the Pulse indeed the Heart and Arteries are naturally moved of the Spirits by *Systole and Diastole*, but they are not so in this Disease; for they are violently irritated, are in *Convulsions and contracted*. The operation therefore of the Motion of the Heart, which is performed in a Pulse, is natural, but in the Palpitation of the Heart it is preternatural; therefore the Disease has its name from the Part affe-

cted, and the Symptom, where with the Patient is afflicted.

Difference.

But this Disease of ours differs very much from the Passion of the Heart, which is a Disease of the Mouth of the Stomach; but ours, of the Heart it self and Arteries. And it is vulgarly reckoned to differ from the trembling of the Heart in this, that in the trembling the carneous or motive Fibres of the Heart are affected by themselves, and the morbidick cause resides not in the Blood and cardiack Arteries, as it does in a Palpitation, though (in my Judgment) they only differ in degrees, and the nature of this Disease will appear more exactly by the following Case.

A Case.

A young Man, a *German*, twenty five years old, candidate in Physick, of a *Melancholick Complexion*, having made divers Journeys through *France, England and Holland*, having kept a bad Diet, and eating too much *sowre Milk-Meats* in

in *Holland*, fell into a double Tertian, and then into a Quartan, after he had tried all Remedies in vain, and was returned to his own Country, he was rid of his Ague, but after eating, there were still remaining Tensions of the *Hypochondria*, heaviness and anxiety of Heart, *Vertigo*, and a violent Palpitation of the Heart; especially after too much Exercise, or drinking of Wine, he felt a beating in all his Arteries, even the least; his Urine was full of small Gravel, sticking to the sides as well as to the bottom of the Urinal, with a very strong Pulse. The Patient requires help.

§. 2. Part affected.

BY the common consent of Authors, the Subject of our Disease is agreed to be the Heart, the Pump of Life, which with the *pericardium* they reckon to be affected, either primarily or by consent: They think that the Vapors may ascend from the lower Parts to the Heart, and vellicate it. But we reckon, That beside the Heart, the Arteries are here affected, as to their Fibres, but especially the small Fibres of the left Ventricle of the Heart, which receives the Blood in abundance from the *vena cava*, and therefore the Heart bears the first brunt. Therefore we make no question, but the Heart is in this case affected both idiopatnically and sympathetically, and the thing is the more credible, because peccant Matter may easily be communicated and transmitted from all Parts, by means of the Circulation of the Blood, for when these are infected, the Heart, and not the Blood is infected. Also, that

the Heart is a Muscle, and because of its Fibres, may easily be contracted, has been proved before by Experiments; for if Hearts be taken out of living Creatures, when they are hurt with the Knife's-point, they contract themselves, and move themselves impetuously, of which I shall say more hereafter, when I treat of the cause of this Disease.

§. 3. Diagnostick.

NOW we will proceed to the Diagnostick. Breathing in this Disease is small and rare, the Pulse in unequal and impetuous, the Heart of the Patient trembles and throbs, as if it would split, if you lay your hand to the Region of the Heart. This concussion is sometimes so violent, that the adjoining Ribs have been broken by it, and those that were about the Paps, have been dislocated, as *Fernelius* and *Sylvius* have observed. Also the Arteries of the whole Body, which we cannot feel in such as are well, are moved here, and especially those that are near the Throat, yea and sometimes the Patients feel the capillary Arteries beat strongly in their Fingers-ends. In some this Palpitation is so perceptible, that their Cloths, wherewith they defend their Breast from external Injuries, may be seen by the bye-standers at a distance to rise and fall according to the Motion of the Heart and Arteries, as three days before I wrote this, I saw in a young Man, a strange and sad spectacle. Now and then also the bye-standers use to hear a plain sound or noise, as *Forestus* relates *obs. 1. lib. 17.* There are Anxieties of Heart, especially in a hypochondriack

driack and scorbutick Constitution, which I have observed to be chiefly afflicted with this Disease. And this Disease is apt to return upon any Motion of Body or Mind, but especially upon Anger, Riding, Bathing, Surfeiting, Heat, immoderate Exercise, *Venus*, Horror, Sadness, Fear, &c. For the Symptoms which chiefly accompany this Disease, are a sense of weight after Meat, Rumblings in the Guts caused by Wind, and Tensions of the *Hypochondria* caused thereby, there is a *Vertigo*, and Urine full of Gravel; but if it arise from consent of other Parts, a prudent and circumspect Physician may easily know that by the hurt of those Parts; so that we need not insist any longer upon this Matter, but will rather turn our selves to the Etiology.

§. 4.

ANd now we will briefly enquire into Authors various explanations of the cause, as we have done in other Diseases. The old *Galenists* say, That the cause of this Disease is either a too hot or too cold intemperature of the Heart: Some of them blame flatulent, malignant and gross Vapors and Spirits, shut up and detained in the *pericardium* or in the *sinus's* of the Heart, which are either bred in the Heart, or are sent from some where else, namely from the *hypochondria*, or Womb, or some other Parts, that are indisposed, from which they hold these Vapors may be sent by the Veins to the Heart. Others of them hold, That it may be bred and encreased by a watry and purrid Humor, like Urine, inclosed in the *pericardium*, and that

thereby the Heart is irritated and sollicitated to a preternatural Motion, they also hold, That it may be caused remotely by Anger, *Venus*, Surfeiting, violent Exercise, &c. and their reason is, because by these things the Blood is inflamed, and the peccant Matter does, as it were, oppress the Heart, and therefore it endeavors to expel, what is noxious, by a violent Motion or Pulsation. And they do not at all doubt, but the same Disease sometimes arises from a *Polypus* of the Heart, or some watry, bloody Humor, That is in the *pericardium*. *Paulus Aegineta* l. 2. c. 34. judges, That strong Palpitations of the Heart, do often proceed from the abundance or heat of Blood received into it. *Fernelius* blames rerorrid Bile poured out into the Arteries, and sometimes gathered in the *Præcordia*, oftentimes in the Spleen. In a word, the whole Galenical Party do verily believe, That the four Humors are here amiss.

§. 5.

THe *Paracelsists* do here, as is their manner, obtrude their Tartar, which by its vaporous and dissolved Substance is in all the Humors, and carried with them to the Parts. When therefore the *Archæus* of the Heart cannot rightly separate and expel this enemy, it cannot otherwise be, but that the Motion of the Heart must be thereby disturbed. They also blame black and malignant Fumes arising from the cacochymick *Mercury* sublimate, beset with the sharp and corrosive Spirits of the Salts, besieging the Spirit of Life, now this, endeavouring a violent escape, and the

the gross Fumes opposing it, they thereby cause such a Trepidation and Palpitation. And they use to compare it to an Earthquake, wherein abundance of preternatural Spirits or Wind, contained in the Bowels of the Earth, attempt a passage with great violence, and shake the Body of the Earth, which resists their various Motions, while they are carried a contrary way, and thus in the same manner they think, That the Palpitation of the Heart is caused by malignant Vapors let loose in the Heart. Some of them blame the precipitate Spirits of the Mercury, that beat against the *capsula cordis*; others blame the Tartar of the Aliment, not rightly separated, and so hurtful to the Heart.

§. 6.

Helmont refers the cause to a heterogeneous Gas, participating of the nature of the balsamick Salt, which affects most powerfully and quickly. *Tr. Complex. atque Mist. Element. num. 42.* In this Disease he acknowledges the austere ponticity of the Humors, contaminating the sensitive Spirit, to be the primary cause thereof: for he holds, That the *Archæus* of the Heart is irritated thereby, and stirr'd up to a disorderly Motion. He affirms also, That foul Vapors ringed with strange *Ideas*, and carried to the Heart, may produce something of the like nature, which *Ideas* in other places he gives an ill Character.

§. 7.

Allis holds, That this Disease, according to an anatomical Observation in a Divine, does arise from the efflux of Blood, being hindred in the Arteries, inasmuch as in the *Systole* of the Heart its Cone and Sides are drawn together and straitned, and the *basis* of the Heart with the roots of the Vessels enlarged by the Blood gathered there, and sticking a little or forced back, swells out, whence flows the Palpitation of the Heart. Certain therefore it is, that this Disease depends upon some fault in the Blood or Vessels, and he proves it by this, Because plethorick People, and such as are nourished with a hot Blood, are inclinable to this Disease, and an Obstruction may easily follow from thence, both by the fault of the Arteries annexed to the Heart, and of the Ventricles of the Heart, and of the Vessels of the Lungs, arising from the Humors concrete within those Vessels, whereupon the Vessels of the Heart do not contract themselves perfectly, and the Blood that would go out of the Heart, not finding room in the Lungs, does by violent distending the Vessels of the Heart shake the Heart it self, and thereupon necessarily causes a Palpitation of the Heart. For he proves by solid Arguments, That the Heart is spasmodically affected in this Disease, and his principal Argument is, because it is customary to such as are troubled with hypochondriack or hysteric Fits, the cause of which Fits is merely convulsive: for it is evident, That the Heart has its Arteries, Nerves, and motive Fibres, which if they be

be contracted or too impetuously moved, they may easily stop the perfluent Blood and so this Disease is raised, as we may observe in Fear, Sadness, Shame, Love, whereby the Spirits are moved disorderly, and the Vessels are on a sudden, and for a good while so contracted, that the Blood can scarce, and not but by turns get out of the *Sinus's* of the Heart. He therefore maintains, That this Disease does usually arise from too much Blood gathered, and stagnating in the Heart, together with a spasmodick commotion of the nervous Fibres: The first he proves, for that the Palpitation of the Heart arises from polypous Concretions that are usually bred within the *sinus* of the Heart or the Arteries, as other Practical Physicians do also observe: The latter he confirms by the impetuous Motions of the Animal Spirits, which easily cause a Convulsion.

§. 8.

Sylvius, taking the Palpitation for a convulsive Motion of the Heart, defends his Opinion by this, That it is a Motion in some measure disorderly forced, and often violent. He also blames sharp Vapors arising from the *intestinum tenue* to the Heart, by reason of a vicious Effervescency raised there, because they disturb the Effervescency of the Blood, and molest the Heart, and thereby irritate it to an unequal contraction of it self; nor does he excuse viscous Humors, disturbing the Effervescency in the Heart, nor carneous Tumors in the substance of the Heart, nor bony Excrescencies, Cartilages, Worms, Wounds, &c. which molest the Heart.

§. 9.

Cartes ascribes the natural Pulse to the rarefaction of one drop or two of Blood, and to the Bloods swelling thereupon, and slipping out of the Ventricle of the Heart into the Arteries: And he refers the cause of the Palpitation of the Heart, to over thick and spirituous Blood, which Ferments either over impetuously or mildly, and so passes more quickly or slowly out of the *sinus* of the Heart. Now therefore, if many both spirituous and viscous Particles be found in the Mass of Blood, it cannot otherwise be, but that this Disease must arise; for since the viscid Particles cannot so easily be severed by the spirituous, when they are quickly moved, by reason of their tenacious Figures sticking fast one to another, hence as often as these vitious Particles enter the Ventricles of the Heart, and as soon as they rarefy, they require more room, whence of necessity some violence must be done to the Heart and Arteries.

Therefore it is evident from what has been said, That the cause of the Palpitation is for the most part to be ascribed to the crudity and viscosity of the Blood, and that the Coats of the Ventricles of the Heart and Arteries are affected and shaken, which very thing the Cartesians do hereby prove, because the action of Fermentation, which otherwise would languish in Liquors to be fermented, for instance in new Wine, is easily promoted by casting in crude, *i. e.* unripe Fruits; and moreover, because they that are troubled with this Disease, void viscid Stuff, whence
it

it may the rather be concluded, That the Fermentation of the Blood is increased: for the over crude and viscous Blood returning to the Heart, may very well raise immoderate Effervescencies and Ebulitions not agreeable to nature, violent dilatations and preternatural Motions of the Heart, which are causes of the Palpitation, as Wind is of Storms. And they conclude as much from the *juvantia* and *nocentia*: because the sick are helped by Diaphoreticks, and hurt by Viscids; for several Practitioners know, That this Disease has come upon eating viscous Meats at Meals, such as sweet Milk mixt with Sugar, Feet of Beasts, Sea-fish, Oysters, &c. Nevertheless the Men of this Sect do not deny, That this Disease may be bred by too great a quantity of Blood, and by sharp, acute Particles flowing out of the Auricles of the Heart into its Ventricles and Fibres, upon this account, because violent Exercise, Running, Leaping and *Venus* are able by moving and agitating the Spirits to produce this Disease. So likewise none of them question, but it may be produced by a contraction and straitning of the Ventricles of the Heart, or by a *Polypus*, Phlegm, Worm, or a Stone; for then more animal Spirits than ordinary have recourse thither, and spasmodically contract the Fibres of the Heart and Arteries; and they deservedly place this Disease among spasmodick Diseases. See *waldsmidii Fundamenta medicinae* p. m. 86. And let this suffice for other Men's Opinions.

§. 10.

III ^E, before we come to explain the cause of this Di-

sease, will premise something concerning the natural Action of the Heart, that so the preternatural Action thereof may appear the plainer. The Heart is the Work-house wherein the transmutation of Chyle into Blood is performed, and indeed the Chyle mixt with the *lymph*a is poured into the left Axillary Vein (where the Blood receives its Rudiments) by the thoracick Duct (which in Men is usually on the right side, but in Beasts on the left) is wrought by it, and by its Motion is driven into the right Auricle of the Heart, then into the left Ventricle, and afterwards is turned into the like Blood. Nor need it be so much admired, why the white Chyle does so quickly grow red, since this is easily done in Chymistry: I keep a most limpid Liquor by me, which upon pouring of an acid Spirit to it grows red in a moment. For the Heart is the principal Part, and next to it the Arteries, which when ulcerated and hurt, the Blood must needs run out, and the circulation be hindred: wherefore all Wounds of the Heart by the universal consent of Physicians are said to be mortal; which the noble *Segerus* in his *Triumphus cordis* confirms, where he says, *That is has never been found, that any one wounded in the Heart recovered.* But I would have all here take notice, That in the Earldom of *Nassow*, there was a Bullet of Lead found in the Heart of a Boar, covered with Flesh, that no way endangered his life: for he was a large Boar, and when it was taken out with a Huntman's-knife, any one might observe that the Wound was not made two or three days; but

but a long time before. These few things premised, let us examine the use of the Heart; and indeed some of the Moderns hold, That Blood is made in the Heart by elixating, with the innate heat of the Heart. Some imagine, That the Blood being by a repeated course carried to the Heart, is rarefied, heated and kindled by the vital Flame blazing in its left Ventricle, and so the Chyle mixt with it is attenuated, and turned into Blood. But *Sylvius* thinks, That from an acid *Lympha* descending with the Blood by the Axillary Veins, and from Bile ascending with the Blood by the trunk of the *vena cava*, and they meeting in the Heart, because of the contrariety of the Acid in the *Lympha* to the urinous Salt in the Bile, there arises an Effervescence in the Ventricles of the Heart. But since the Motion of the Bile, which he supposes is not so certain, and the *Lympha* is not so acid to Sense, nor the ascending Blood so bilious, as to be able to raise this Effervescence, therefore we justly suspend our judgment, though the Noble *Wilhel. ten Rhyse* seems to subscribe, when he says, *The primary Author of the universal Motion or Circulation of the Bile in the Blood depends on a particular agitation, while meeting with the sub-acid Lympha, it causes a vital Effervescency, as one fights against the other with Particles furnished with a different edge of Figures, that the innate heat may constantly be kept in the whole Body.* But we rather suspect that the Blood is made by the Fermentation of a twofold Salt, an acid and urinous, or a volatil *Alkali*, residing in the Mass of Blood from the very moment, when the Man was conceived, by the concurrence of

which being dissolved (and by the influence of the animal Spirits, which give so great a Motion both to the Heart and Arteries, and so cause the Blood to flow more or less) they act one upon the other, and so life is continued. Wherefore *Helmont* is not out, when he places a certain vital Ferment in the left Ventricle, namely brought in and illuminated by vital Spirits. But we reckon, as does *Ettmullerus*, That this acid and urinous Ferment is radicated in the salient Point of an Egg, because of a saline volatil Spirit; which *Charleton* has long since observed in his *Oeconomia* p. 65. saying. *It is manifestly apparent that the vital Spirit is raised in the primum seminale by means of the plastick virtue, and is fiery, for that noble Principle, which by its Heat and Motion in turning the purer part of the Colliquamentum from white to red, first makes Blood in the Embryo, it will be difficult to explain it, and likewise what it is that converts Chyle into Blood, and is the Author of the same work ever after, as long as the Man or Beast lives.* For to maintain life, these balsamick or sulphureous Particles of the Blood, must, as far as is possible, be preserved; since therefore the Coats and Membranes of the Veins and Arteries are porous, wear out by degrees, and their texture is broken, it cannot otherwise be, but these volatil Particles must fly out in time at these apertures, the Blood must cease to be volatil, and [death at last invade the Hearts of old Men. The principle of Life is therefore so far good, as the Blood is kept in Motion by volatil or alkalick Particles, that is, the Animal Spirits.

From

From what has been premised any one may easily guess at the cause of the Palpitation of the Heart; and it is certain, That it is different and various, according to the various and different texture, volatility and fixity of the Blood and Spirits: for sometimes it consists in a coagulation of the Blood made in some certain place of the Heart; yet in my Opinion, it is most usually caused by its too great rarefaction and excessive Commotion caused thereby. For no Man, who has any Brains in his Head, will deny, That this Commotion of the Heart may be hurt by divers causes, for it is as clear as the Sun, that this Disease may be caused either by an Acid contained in the Mass of Blood it self, or sent thither from some of the inferiour Parts, to wit, by an over sower pancreatick Juice, or an over volatile scorbutick Serum abounding in the Blood, or by a sharp Water, lying in the *pericardium*, and at sometimes communicated to the Heart. For we exclude no sharp Humors, where acid, viscid, austere or pituitous, if so be they are able by their Acrimony to irritate the *parenchyma* of the Heart and its Fibres to a convulsive and palpitating Motion, and to create a grumescence or thickness in the Blood, so that it is as it were hindred in the midst of its Motion, which lest it shou'd cease, Nature throws off by a subsultary Motion, whence proceeds this Palpitation, which we are now treating about. So also we believe, That the animal Spirits, in a tumult, and rushing impetuously into the Heart and Arteries, do often, if not always, affect them spasmodically: for from thence we deduce the frequent and vehement Pulse, Heat, &c.

§. II. Prognostick.

Now in order let us take an account of the prognostick Signs. In respect of Life and Death in general this Disease is very dangerous; and it is evident, That life is endangered by it, because the Part affected is noble. The Symptoms also are violent, Swooning, suffocative Catarrhs, Convulsions, &c. but all hope is past, when any thing of malignity appears. And it is often fatal, because the natural distribution of the Blood is hindred. Yet that which comes sympathetically need not so much be feared, for this is an assertion of eternal verity in the Medical Schools. *What Symptoms arise by consent, are less dangerous than those that are essential.* *Timaeus l. 2. ep. 23.* says, That the issue of this Disease is dubious, because a principal Part is affected, and because it often degenerates into a mortal *Syncope*. But this Disease is more difficult to cure in Women, because of their impure viscous Bodies and sedentary life, than in Men. And if the Disease do ever and anon return, and afflict the Patient, it will endanger his life. But if Solution of Unity in the Head be joyned with it, the case is desperate; and though some have been freed from this sad evil by Bleeding, by a low Diet, and generous Medicines, of which we shall treat hereafter; yet on the other hand there are some, who after they had tried these things to no purpose, have within a year or some Months been taken with it again, and out of the World before their time; others have been taken off by acute Fevers; and some when they have thought

thought themselves well, have died suddenly in a Swoon, or of a suffocative Catarrh: for there is imminent danger of sudden death, if this Disease hold one long or return often. And if it proceed from an external cause, as from the violence of Venom, Bite or Blow, the case is also dangerous; yet here we ought not wholly to despair; however a Physician has always need of this Caution, to keep his Prognostick dubious, lest he disgrace both himself and his Art. This Disease is not so familiar to such as are troubled with Swooning, as to them that have a swollen Spleen, and are full of black feculent Blood, namely hypochondriacal People. Lastly, the Palpitation of the Heart ceases upon the dissolution and correction of the morbidick Matter, which when done, the natural Fermentation is restored in the Heart, and all is well, if the Cure, which now follows, be observed.

§. 12. Dietetick Cure.

ANd indeed the first fountain of Cure is Dietetick, whereby the Physician relieves his Patient. Now how much a due course of Diet is able to do in preservation both from Diseases and Death, daily experience teaches. To this purpose that of Seneca is excellent *de brev. vit. c. 1. We have not received but made our Lives short (by Luxury;) nor are we sparing but prodigal of them: as great riches, when they fall into the hands of a bad Master, are quickly lavished away, but an Estate, though mean, if it fall to a good Possessor, does encrease by holding.* Wherefore we, as in every thing, so here especially being solicitous about

the observation of the Palpitation of the Heart, will not treat only in general, but in particular, what Diet we do advise, and what we disswade in this Disease. And it is evident from what has gone before, that not only Meat and Drink but all the non-naturals are herein comprehended, of the use and abuse of each of which we shall briefly discourse.

Choose therefore a pure Air infected with no Filth, or Cloudy and Salt Exhalations, as it is in maritime Parts, which, unless it be such as the Physician would have it, must be corrected by art, for when the Cold exceeds, it must be heated with Fumes of Lawrel-leaves, Juniper, &c. When heat is urgent, it must be cooled by all means.

Food must be such, as may breed a good and laudable Blood and Spirits (for such as the Blood is, such are the Spirits) not a viscid, ferrous, thin, nor a salt and sharp one, the simpler the better, according to *Celsus*. The Meat must therefore be temperate, of a good Juice; and for breeding of better Blood let Broths be seasoned with Saffron, Mace, Cinnamon and other Spices, both Herbs and Roots. For this purpose Broths are good, in which opening Roots of *Asparagus*, Butchers-broom, Fenil, Bark of Capers, &c. have been boiled. I have known *Indian Chocolate* given with good success. On the contrary flatulent, gross, viscid, sharp, salt and excessive acid Meats must be avoided; also eating of Garden Fruits, Milk, and smoak-dried Meats is naught. For these cold and flatulent Meats do of themselves breed a flatulent (rather a sharp) Chyle; according to *Galen de palp. cord. c. 5*. Salt Meats are very hurtful in

his case, because they sharpen the scorbutick *Serum*, and by consequence accelerate the Motion and violence of the Blood and Spirits; for scorbutick Persons are usually troubled with this Disease.

The *Drink* must be small, odorous Wine, mixt with Water: But in a hot Palpitation, where the use of Wine is hurtful instead of it let him drink a cordial Drink made of Peels of Citron, Orange and Cinnamon. On the contrary, let the Patient avoid rich Wines, and such as are corrupted with much Sulphur, which enrage the Blood and animal Spirits, and sollicit and stir up the Heart to an extraordinary Motion. And *Helmont* has taken notice, that great drinkers of Wine, and artists who are employed much about *aquæ fortes*, are troubled with the Palpitation of the Heart, because they attenuate the Blood, and injure the Spirits with their Taints. In this case also vitious and standing Waters are bad, and Beer made of such Water, windy, not well boiled, hopped and sowre, is bad; all which things hurt the Blood, and by consequence produce bad Spirits. The Patient therefore being made more cautious by the *juvantia* and *nocentia*, let him avoid what is hurtful, and rather favour his health than his Palate.

The *Motion* of the Body must be moderate, for too much of it exalts the Blood and Animal Spirits, enrages them and easily provokes them to spasmodick Motions. So likewise too much Rest does harm, to wit, a sedentary life, as *Helmont* has observed, who says, that idle Persons are afflicted with the Palpitation of the Heart, because the Chyle not rightly elaborated is in fault, and the Blood is not rightly

actuated, which then stagnates, becomes gross and viscid, and by consequence sharp and vellicating; hereupon also the serous and acid Particles, that used to fly away, are not evacuated by transpiration, but remain in the Mass of Blood, especially about the Head, and fill it with many Crudities and Excrements, hurtful to the Mass of Blood and the animal Spirits that are in the Nerves, and often produce this Disease.

As to *Sleep* and *watching*, we must avoid excess on either hand, and we must always keep in memory that of the divine *Hippocrates*, *Sleeping and watching, if they exceed bounds, it is bad*. For immoderate Sleep renders the Spirits torpid, and so unable for their due Action, and it also renders the Blood torpid in its Motion; also too much Watching consumes the spirituous Particles in the Mass of Blood, and so leaves a vapid, tough, viscous and sharp Blood.

As for the *excreta* and *retenta*, they must be brought to the Laws of Nature, otherwise they become authors of this Disease; therefore the suppressed *Menstrua* in the Female sex, the Hemorrhoids in both, and bleeding at the Nose must be restored, lest the vitious Particles retained in the Mass of Blood, infect and plainly corrupt it with divers impurities.

Let the Patient industriously avoid the *Passions of the Mind*, especially Anger (wherein at other times a trembling is observed in the Limbs, why not in the Heart?) Sadness, Fear, sudden Joy, Sports of *Venus*, for one told me, That in the Venereal Sport such a Palpitation came upon him, that unless he had desisted, he had died for it; let him

him avoid all violent things, and as far as possible esteem them his enemies; for these things have great influence upon the Blood and Spirits, they breed Inflammations and Tremblings, they kindle Fevers by means of the Spirits, and a thousand other mischiefs issue thence, as out of the Trojan Horse. And what mischief they do to those that are well in health, daily experience, the most faithful mistress, does set before our Eyes, to the over-late repentance of offenders.

§. 13.

These things premised, we will proceed to the pharmaceutick cure, beginning, according to the Method we have hitherto observed, with the Ancients. They therefore first of all, if the Body were cacochymick, rendred the Humors obedient to Nature by Preparers, such as *syrupus de duabus radicibus*, *Byzantinus*, *Oxymel simplex*, *compositum scilliticum*, Water of Betony, Decoction of Aniseed, Betony, Fenil. In melancholists for this end they use Syrup of Dodder of Thyme, of Hops, of Apples, &c. and in a bilious Constitution Juice of Limons, Sorel, Water of Lettuce, Violets, Bugloss, Roses, Cichory. Which Humors thus prepared, they at last purge off with their evacuating Medicines; for example. In a hot Constitution they give *Syrupus de multiplici infusione rosarum, rhabarbari*; and in a melancholick Disposition they give *diasenna*, *confectio Hamech*, *Pilula Indæ*, *de lapide lazuli, sine quibus esse nolo*, *sennæ*, *epithymi*. But when this Disease comes from cold and pituitous Humors, they prescribe Agarick trochiscated, Agarick

Pills, &c. They usually also cry up Bleeding for an excellent Remedy in this Disease, and they let Blood till the Patient faint: In cold Constitutions they will not admit of it. Then they endeavour to drive all manner of heterogeneous Matter to the ignoble Parts, by Clysters, Cupping, Frictions and painful Ligatures, &c. Then they strengthen the Heart, and amend the hot and bilious or cold phlegmatick intemperature of the Blood by the following Medicines, which they call Corroboraters, such as *species diambra*, *confectio alhermes*, *aromaticum rosatum*, Treacle given in Eugloss-Water, Musk, *Diamoron*, *diamoschu dulce*, *Hippocras-Wine*, Juice of Bugloss, candied Citron-Peel, Zedoary, Nutmeg, Cloves. Externally they order the application of an Epithem of Cordial Water and Majoran, and also Bags of *Lignum Aloes*, *species diambra*, and other aromatick things.

But in a hot Palpitation, beside the aforesaid, they say that these Corroboraters are good, *species diarrhodon Abbatis*, *diamargariton frigidum*, *diatrion santalon*, Syrup of Pomegranate Juice, Sorel, Apples, Bugloss, Limons, Quinces, &c. In this case they use to apply externally Epithems of Flowers of Water-Lily, red Roses, Bugloss, Violets, with cooling Cordial Waters, or Bags filled with such *Species*. They prescribe also divers Cordial Balsams and Liniments, for instance, of *Lignum Aloes*, *Rhodium* and Nutmeg. They say, that Balm, Bugloss, Borrage, Coral, Pearl, precious Stones, Bone of a Stags heart, Ivory, Unicorn's horn, &c. are good for all Palpitations of the Heart of what sort soever, out of which a prudent Physician may of himself make

several Receipts, which we shall now forbear.

§. 14.

THE Chymists in the Palpitation of the Heart advise the giving of such things, as remove the Oppilation of the vital Spirit, discuss cacochymick Fumes, and highly strengthen the Balsam of Life; therefore *Paracelsus* advises the giving of one Scruple of prepared Gold in Lavender-Water, drawn with rectified Spirit of Wine; others of that Sect commend Oyl of Coral, Tinctures of Gemms, Sapphire, Jacynth, &c. especially of Gold, if four or five drops of it be given in Balm-Wine. Some do in this Disease highly commend Oyl of Cinnamon, Amber to three drops, and the Essence of Pearl given in Syrup of Citron rind with Musk. So *Quercetan* highly esteems Essence of a Stag's-heart, with alcolizate Spirit of Celandine, Harts-horn, *Monoceros*, with alcohol of Baum, Musk with Treacle Water, Civet and Castor extracted with their *Menstruums*. Many prefer an Extract of Cochinele or Alkermes as the highest Cordial. As for Externals, which here and there may be met with in Authors, and are not yet approved by experience, I shall not set them down here, lest I should be tedious.

§. 15.

Elinont follows, who says very well, *cap. de febr. 15. num. 7.* Then, though the Essences of Vegetables and Animals be hot, yet their volatil Salts (which you never saw) are temperate. So that if you

know how to transmute Oyl of Cinnamon, cloves, Lavender, &c. into a volatil Salt, you have got a temperate Medicine, which will effect as much as can be expected from these Simples in the Palpitation of the Heart. In this case also he highly values Opiates: for he observed *cap. 9. de lithiasi* §. 17. that a certain Chymist, who had tarried long about *aquæ regia*, fell into a terrible Palpitation of the Heart, and pains of his Arms, his Mouth was drawn to the right side, he slept not all Night, but had extreme Pain in his Arms, and grew very lean, because of the ponticity of the Waters, which he had received. In the mean time all external Remedies that were used, proved in vain, and the Patient was perfectly recovered only by taking *Laudanum* for thirteen days, and then he recovered his former Strength and Habit of Body; concerning which, see our Judgment below.

§. 16.

Ults, because he reckons, That the Palpitation of the Heart depends upon some fault in the Blood or Arteries annex to the Heart, and alledges manifold causes, does therefore proceed upon a different way of Cure. When therefore this Disease proceeds from any fault in the Blood, the Therapeutick Intention will be to kindle the over watry vitious Blood, and to exalt it to a better Effervescence and Temper, and to increase its active Particles, that are depressed or diminished, to which purpose he commends spirituous Medicines, also saline and sulphureous ones, and especially Chalybeates:

beates : here are some of the Author's Receipts ;

Take of Tincture of Antimony half an Ounce, *tinctura martis aperitiva* one Drachm and an half. Mix them, and put them in a Glas : give twenty drops twice a day in the following Julep.

Take of Water of *Aron* leaves three Ounces, Penny-Royal, Hyssop each two Ounces, Worms, *Mirabilis* each one Ounce, Sugar of Roses half an Ounce. Mix and give it.

But if this Disease have its rise from Obstruction of the Arteries and polypous Concretions, saline Medicines will be proper, especially such as are made of a volatil Salt, as Spirit of Salt, Sal Ammoniack, and a Tincture made with it of *Millepedes* or other volatil things, Spirit of Harts-horn, Soot, *Guajacum*, Box, &c. But if the Disease be caused by too great effervescence and Acrimony of Blood, then he orders Bleeding and temperate cooling cordial Juleps. And because he thinks the cause is convulsive, he therefore mixes Antispasmodicks with other things, and Specificks approved by his own experience. This is one Receipt;

Take of Spirit of Amber, Sal Ammoniack each one Drachm and an half, Tincture of Antimony two Drachms. Mix them, give fifteen drops.

Then he recommends to the prudent Physician the use of Frictions, Cupping glasses, Ligatures, Leeches, Fomentations, Unguents, Plasters,

and Epithems made of cordial and aromatick things.

§. 17.

Sylvius, if the Palpitation of the Heart appears to arise from a viscus and sharp Humour, advises the use of Alterers, Incisers, and Medicines that temper the Acrimony: for which end he communicates the following Medicine to young Beginners ;

Take of Cinnamon-Water, Baum, Borrage each one Ounce, Syrup of Borrage, Bugloss, *carduus benedictus* each half an Ounce, Spirit of Vitriol of *Mars* half a Scruple. Mix them. Take a spoonful at a time.

And to carry off that viscid, phlegmatick and sharp Humor, he advises Purgatives, and he prefers Pills of Gums above all, which best dissolve and incide glutinous Humors.

Take of Gum-Galbanum, dissolved in Vinegar of Squills, and inspissated again, half a Drachm, Vitriol of *Mars*, calcined to whiteness one Scruple, Resin of Jalap fifteen Grains. Mix them. Make thirty Pills, for two Doses. Let him drink some Broth two hours after he has taken them.

And he commends the following Apozem for the same purpose.

Take of root of Parsly one Ounce, Arum one Drachm, Shavings of *Guajacum* three Ounces, Bay-berries two Drachms, Pulp of *Coloquintida* one Drachm, Caraway-Seeds two Scruples, Orange Peel

two Drachms. Boyl them in a sufficient quantity of Spring-Water, in thirty Ounces of the Colature dissolve of Syrup of Roses solutive with *Senna* three Ounces, rectified Spirit of Wine two Ounces. Mix them. Let the Patient take three Ounces of this Apozem.

He cures this Disease out of the Paroxysm gradually by Alterers and lenitive Evacuaters, giving them frequently mixt with other Specificks. And in a hot case he does not contemn Bleeding and Cupping.

§. 18.

THe *Cartesians*, as I said before, hold, That this Disease proceeds from a Blood either too viscous, too much rarefied, or from a spasmodick contraction of the Ventracles. In the first case therefore the Therapeutick Indication will be, to volatilize the viscous Blood, for which end, they admit of Diaphoreticks, and all manner of volatil Salts, as generous Remedies: for instance;

Take of *Mixtura simplex* three Drachms, our anodyne Cordial Essence half a Scruple. Mix and give it. Or,

Take of *Tinctura bezoardica Michaelis* one Drachm and an half, Tincture of Antimony one Scruple, Essence of *Opium* with Amber six drops. Mix them. The Dose is ten Drops.

Cranius his diaphoretick Powder made of Antimony and Camphore will do good in this case. And so

will a Decoction of the Woods.

The second Indication of Cure is to correct the Blood, that is too rare and effervescent, by Venesection and incrassating things, namely ponderous Medicines; therefore the following Electuary will not be improper;

Take of Conserve of Roses, Borrage, Bugloss each one Ounce, *confectio de hyacintho* two Drachms, *Alkermes* one Drachm, Tincture of Coral one Scruple, *species de gemmis frigida* four Scruples, Bone of a Stags-heart half a Drachm, Jacynth-stone prepared one Scruple, *Syrupus acetositis citri* what is sufficient. Make an Electuary. Of which let the Patient take the quantity of a Chesnut at a time; or the following Powder;

Take of Oriental Pearl prepared one Drachm, burnt Harts-horn prepared three Drachms, Bones of a Stags-heart No. x. of the five precious Stones each half a Scruple, yellow Saunders one Drachm. Mix them. Make a subtil Powder, which may be given from a Scruple to a Drachm in this or some such Vehicle.

Take of Oyl of sweet Almonds half an Ounce, Melon Seeds two Drachms, Cinnamon-Water one Ounce, Bugloss, black Cherry each tree Ounces, *julapium rosatum* one Ounce. Mix them.

Their third Therapeutick Indication is, to stop the convulsive Motion of the Heart; to which end they advise Antispasmodicks mixt with Cordials, which you may see in our way of cure.

§. 19.

IT remains now, That we give our own Opinion about the cure. Therefore, lest we should give Medicines like Empiricks, who (as the saying is) have but one Salve for every Sore, we shall, according to the Rule of dogmatical Physicians, use Method, and proceed, as near as possible, according to the Indications thereof, which are three. 1. *Curatory*, which bids us chiefly drive away the Disease in the Fit, and so it uses to free the Heart and Arteries from that strange Invasion and Leaping. 2. *Preservatory*, which respects the Causes out of the Paroxysm. 3. *Vital*, which has respect to the Patient's strength, which here is often very low. As to the first Indication, we draw several Remedies from the chirurgical and pharmaceutick Fountain. Among the chirurgical ones we prefer bleeding, by which, and a due observation of diet, *Avicen*, *Galen*, *Horstius*, and others have perfectly cured several. One may therefore either bleed in the Arm or Foot, five Ounces or more: and if the Patient be fearful, *Rhases* advises Cupping and scarifying the Back. But if the Disease will not cease so, we must reckon that a subtil, arterious Blood, full of Spirits, and a volatil Serum does rather abound in the Arteries, and therefore we allow of opening an Artery, provided there be an expert Arteriotomist, and the English Styptick Liquor at hand: for we have found great benefit thereby. So likewise we do not contemn Infusion, no more than our worthy friend *Ettmullerus*: But since morose and ignorant Men will

not allow of it, nor Physicians hazard their reputation upon it, this invention, to Man's great prejudice, is not yet made use of. Now follows the pharmaceutick Fountain, from which generous Remedies are drawn, so that, when the Indications are known, the cure is happily performed. First of all, that sharp or acid, viscid, and sometimes volatil peccant Matter ought to be corrected, precipitated, and some way or other eliminated and amended; to which end all such things are good, as are found to be good Specificks by Authors, such as Pearl, burnt Harts-horn, *terra Lemnia*, fragments of the precious Stones, Bezoardicks. Here is a Receipt or two for young Beginners;

Take of Ivory prepared two Drachms, Harts-horn prepared, Coral each one Drachm, occidental Pearl prepared one Scruple, Emerald half a Scruple. Mix them. Make a subtil Powder, and give it in the following or some such mixture;

Take of Water of Baum, Borrage, Bugloss each three Ounces, Raspberry, Cinnamon, *aqua cordialis Saxonie temperata* each two Ounces. Mix them, and sweeten them with *julapium rosatum*, or Sugar.

If you would make all things more effectual, so as to cut the viscid and tenacious Phlegm, and procure a fluidity, add *sal volatile oleosum nostrum*, or volatil Salt of Harts-horn: for instance;

Take of Water of Bugloss, Cinnamon, Baum each two Ounces, Essence of Amber half a Drachm, *Sal volatile oleosum nostrum* half

a Drachm, Syrup of Pearl one Ounce. Mix them.

All aromatick volatil Salts made of Cinnamon, Amber, &c. are good in this case. So *sperma ceti* is a good Medicine in absorbing any hostile Acid. To which end Tincture of Coral, made with volatil Salt of Tartar, may be given to thirteen drops.

When the Fit is a little quieted, then things that qualify, correct and discuss the acid Acrimony, the cause of Wind, are of great use: for instance;

Take of Extract of Rhubarb one Scruple, or of *extractum melanagogum*, *Pilula aloëtica*, *marocostina* each half a Scruple, *crocus Martis aperiens* three Grains, *Elixir proprietatis antiscorbuticum*, what is sufficient. Make a Pill according to Art. Or,

Take of *Massa pilula tartarea Quercitani*, de gumm. each half a Scruple, Vitriol of Mars three Grains, with Tincture of Tartar what is Sufficient. Make Pills.

Or for them that like an Apozem better;

Take of the five opening Roots, Bark of Caper-root, Tamarisk each two Drachms, the capillary Herbs, Dodder, each half an handful, cordial Flowers each one Pugil, Fenil Seeds two Drachms, Polypody of the Oak six Drachms, crude shining Tartar half an Ounce. Boyl them in Water and Wine each alike quantity, what is sufficient; in a Pound and an half of the Colature infuse warm half an Ounce of choice Rhubarb

for a Night, make a moderate expression, add of *Extractum Cnicopharmacum* two Drachms, *Syrupus de pomis Regis Sapor.* two Ounces, Water of Cinnamon and Bugloss half an Ounce. Mix them.

Riverius commends the giving of two Scruples of true Rhapontick. Or the following Composition may be made for a Physick Wine;

Take of the five opening Roots each one Ounce, Rhubarb three Drachms, Leaves of *Senna* one Ounce, the three Cordial Flowers each two Pugils, Rind of Citron, Cinnamon each one Drachm, Fenil-Seeds two Drachms. Mix them.

Or make an Infusion of Rhubarb, but with Salt of Tartar, or some other alkalifate Salt. For such sort of Salts are like a Key, which unlock the Medicine, by the addition whereof the Rhubarb is better opened, as is plainly apparent, from the Waters high red colour, wherein it is infused, which is not so deep coloured, when the Rhubarb is infused alone.

When this is done, Diaphoreticks may come in play, to incide and discuss the viscid Reliques and soak up the Acid. Take this Receipt;

Take of *Antimonium diaphoreticum*, Harts-horn prepared without fire each half a Scruple, Magistery of the Back-bones of Vipers five Grains. Mix them. Make a Powder. *Horstius tom. 2. p. 48.* has a very excellent Treacle Spirit. So *aqua theriacalis camphorata* or Tincture of *Opium* will supply its place. Or,

Take

Take of Water of *carduus benedictus*, *scorzonera*, Scabious each one Ounce, Harts-horn prepared without fire half a Drachm, *Pulvis Bezoardicus Sennerti* half a Scruple, *confectio Alkermes* one Scruple, Syrup of Coral what is sufficient. Mix them.

If there be any suspicion, That this Disease has its rise from a too great effervescence of Blood, from heterogeneous and savage Salts, raising a disturbance in the *Serum* or Blood, like as it sometimes manifests it self by Pustules in the Breast, and other where; then besides Venesection we commend temperate Cordials and Antiscorbuticks together. To which purpose the following or some such like distilled Water will be good;

Take of root of *scorzonera*, Borrage, Bugloss, Male-Fern each one Ounce, Leaves of Spleen-wort, Sorel, Wall-Rue, Maiden-hair, Flowers of Marigold, Borrage, Bugloss, blew-flowred Trefoil, Broom, Pimpernel each one handful, Shavings of Harts-horn six Drachms, Pome-citron and Orange each No. 1. Cut the Ingredients small, infuse them in three Pounds of Wine, and one Pound of Whey of Goats-Milk for two Days and two Nights. Then add of Juice of Brook-lime, *carduus benedictus* each half a Pound, destil them in glass Vessels according to Art, and keep what you destil. Take one Ounce and an half of this with half an Ounce of *confectio Alkermes* every Morning and Evening. Or,

Take of Juice of Bugloss, Sorel, *carduus benedictus*, *beccabunga*, Bor-

rage each one Pound, Leaves of Citron, Baum three handfuls, yellow Saunders three Drachms, *lignum Aloes* one Drachm and an half, Cinnamon one Drachm. Infuse and destil them according to Art.

Or prescribe some such like thing in form of an Electuary;

Take of Conserve of Bugloss-root, Citron-rind each half an Ounce, red Roses, Rosemary-flowers each six Drachms, Shavings of Harts-horn, Ivory each half a Drachm, prepared Pearl half a Scruple, *crocus Martis*, Amber-grise each six Grains; with Syrup of Grains of *Chermes* make an Electuary.

Or in form of a Powder;

Take of *lapis prunella* one Scruple, Camphore four Grains. Mix them. Or,

Take of Conserve of red Roses two Ounces, Pulp of Citron three Ounces and an half, candied Citron Peel half an Ounce, *confectio Alkermes* one Drachm, prepared Pearl half a Scruple, sweet Spirit of Salt twenty five drops, Syrup of Raspberries what is sufficient. Make an Electuary.

And here Cakes made of the acid of Citron, Limons or Corinths with Sugar and a little *confectio Alkermes* are good. Or make a Powder;

Take of *species diamargariton frigida*, *electuarium de gemmis frigidum* each one Drachm, *electuarium de hyacintho* half a Drachm. Mix them. Make a Powder for several Doses.

All

All cool Cordial Waters, that are to be met with in Authors, may be used, especially the following, which is highly commended by the Ancients in every Palpitation of the Heart;

Take of Swine's-hearts No. 2. Stag's or Ox's-hearts No. 3. Galangal greater and less, Basil Seed each half an Ounce, Mace three Drachms, Flowers of Borrage, Bugloss each two Pugils, Rosemary one Pugil. Infuse them in Malmsey Wine, and destil them according to Art.

Oftentimes in this Disease Gravel is found sticking to the sides of the Urinal, and in this case, beside what has been already mentioned, Diureticks will be good, for instance, Spirit of Salt, Crabs-eyes, *liquor spleneticus Schroderi* made of Tartar and Nitre. Besides, since we said formerly, That the Palpitation of the Heart arises often, if not always, because the Nerves and Fibres, that encompass the Heart and Arteries, are spasmodically contracted, and then they make the Motion of the Blood out of the Heart more or less free, and contract the Ventricles of the Heart; in which Case antiepileptick Medicines, or such as are good against other spasmodick Motions, may be given, but especially Opiates, which bear away the Bell from all the rest, as I have an instance, namely a Citizen of *Hanover* was perfectly cured of this Disease, and continues free from it still, only by taking several times a little *Theriaca cœlestis Hanoviensis*. Here is a receipt or two;

Take of prepared Pearl half a Scruple, volatil Salt of Amber eight

Grains, *theriaca cœlestis* four Grains. Mix them. Make a Powder for once taking. Or,

Take of *pulvis cephalicus noster* or *Michaelis* one Scruple, Bone of a Stag's-heart half a Scruple, Salt of Harts-horn, or Man's Blood six Grains. Mix and give it.

If sweet scented Volatils please the Patient, add to the destilled Water Amber and Musk in the Nose of the Alembick. Sometimes a glutinous salt Humor is carried out of some solid Receptacles into the Blood, and then *Capivaccius* uses gentle Astringents, such as Mastich, &c. If this Palpitation arise from the consent of other Parts, the Womb, Spleen, *hypochondria*, then you must take care of the Parts that are hurt; for which purpose Chalybeates are good; for so you kill two Birds with one stone. But if this Disease proceed from polypous Concretions within the *Sinus*s of the Heart; then with the most experienced *willis* we fly to volatil Salts, which can never be sufficiently commended in this case. If it come from Worms, Medicines of Water-Cresses are good, and Specificks mixt with Cordials. If from a malignant cause, *theriaca cœlestis* and *smaragdina* are good. If from a fright, bleeding is proper. As for Topicks or external local Medicines, they must be applied to the Wrists and Region of the Heart: for they yield great comfort. Wherefore *Mercurialis* commends *Venice Treacle* for a most effectual Medicine, as it was experienced in the Emperor *Maximilian*, to whom this Disease was familiar. *Riverius* prescribes the following Liniment, *prax. med. l. 8. c. 2.*

Take

Of the Palpitation of the Heart.

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Take of Oyntment of Roses two Drachms, Oyl of Cinnamon, Cloves each four drops, Musk, Amber each three Grains. Mix them. Make a Liniment.

But you must abstain from these sweet smelling things in Women. There is an excellent Cordial Balsam made of Oyl of Baum, Citron and Carbuncle. Bags may well be made of Cordial Powders, with Baum or some other Cordial Water, and applied. Or the following Epithem may be applied with Scarlet-cloth;

Take of Water of Orange Flowers, *carbunc. solar.* Baum with Wine each alike two Ounces, Vinegar

of Gilli-flowers one Ounce, Saffron half a Drachm. Mix them.

Or a cooler Epithem in a case hotter than ordinary;

Take of *aqua cordialis frigida* one Ounce, Bugloss, Roses each one Ounce, Vinegar of Rasberries one Ounce and an half, *confectio Alhermes, species diamargariton frigida* each one Drachm. Mix them for an Epithem.

A Swine's-heart is very much commended by some, from which they use to destil a Water; and so the Spirit of an Ox's and Stag's-heart is greatly valued.

CHAP.

CHAP. VII.

Of Swooning.

§. I.

Swooning or Fainting is called *Syncope*, *deliquium*, *leipopsychia*, *animi eclipsis*, *leipothymia*; by *Aurelius*, *solutio naturæ*, *defectus*; by *Seneca*, *concussura*; by *Paracelsus*, *cordis paralysis*, *fulmen microcosmi*; by *Scaliger*, *spirituum subtractio*.

Definition.

It may be described to be, an eclipse of the microcosm, or a sudden failure of strength from the luminosity and irradiation of the Spirits being extinct, arising sometimes from too great dissolution, sometimes from coagulation of the Blood. From the definition here given it appears, That this Disease, though it be violent enough, yet upon a small occasion it casts a Man down so unexpectedly, that he seems to be at Death's door.

Difference.

As to the differences, a Swooning or *deliquium* is much worse than a fainting or *leipothymia*; but this is not altogether so necessary, because they differ only in degrees.

Two Symptoms especially follow a *Syncope*, a coldness of the whole Body, and a cold Sweat, which is therefore called *syncoprick*. Want of Pulse, and a privation of Sense and Motion attend it, which *Curtius* does plainly intimate *L. 2. n. 38.* where he has this Passage. *His Soul, which in the heat of Battel had kept up his Body, fainted, and Sweat gushing out of all his Parts, he caught hold of the next Tree that was at hand.* This Disease (which seldom comes alone, but is usually accompanied with other Diseases) often arises in chronical ones, which end in death, partly through want of animal Spirits, partly through want of an alkali in the Heart, or abundance rather of an Acid, that coagulates the Blood, and by consequence suffocates the Heart, as will more fully appear hereafter, when we treat of the Causes. Some make the Heart-burn to be a kind of *Syncope*: but we must take care to distinguish between a *Syncope*, which is called essential, and one arising by consent. There is a difference as we said before, not so much of Kinds as Degrees, in which regard one is of the lowest degree, and is called *eclipsis*; another of the middle, termed *leipothymia*; and another

ther of the highest degree, called *syncope*. But we comprehend them all under one and the same.

§. 2. *Part affected.*

AND by what has been said, one may easily gather what the subject of a *Syncope* or Swooning is. It is by the common consent of Authors said to be the Heart, that fountain of Blood, inasmuch as in it the Principles of the fiery Nature are contained and preserved. Some will have it to be the Brain, and they make it out, Because the sudden decay of the animal Faculty happens through the animal Spirits retroceeding to the Brain it self; and hence the instruments of Sense and Motion, becoming destitute of Spirits, can in no wise perform its actions. But if this be taken with a limitation of the subject of the Disease and the Cause, one may easily clear himself of all difficulties. Some there are, That acknowledge the Stomach for the principal Subject, among whom *Helmont* is chief, but how far he is in the right, one may evidently see by *Galen l. 5. loc. aff. c. 2.* But we do think, That the Heart is the Part primarily and principally affected in Swoonings: for if Fermentation cease, then all Influx of Spirits to the Heart is denied, and on the contrary; and the less principal Parts in my Opinion are the Arteries, through which the Blood passes, nor do I doubt but other Parts suffer by consent, and that they administer peccant Matter to the Heart.

§. 3. *Diagnostick.*

BUT laying aside these preliminaries, we will pursue what follows, and go to the Diagnostick. The Signs therefore of an imminent Swooning are (especially in such as are used to it) an unthought of Anxiety and Perturbation of Mind, Heaviness of the Head, Observation of a strange and various colour, green and yellow, before the eyes, frequent alteration of the colour in the Face, and also of the Pulse. For no Disease in the whole World is liker Death than this: for a Man's Face is pale, his extreme Parts cool, there is an ingrateful and cold Sweat and Anxiety; at length the Soul so far sinks, That it presently loses its power of Sense and moving the Body; if a Man be standing he falls down, and his Arms hang flapping. Besides, there comes a Mist over the Eyes, a *Vertigo*, and then a faltering in Speech, breathing almost ceases, the Eye-lids close, sometimes there is no Pulse, oftentimes it is rare, obscure, and as good as none, or formicant, the extreme Parts, as we said before, Hands, Feet, Nose and Tips of the Ears are cold, a cold Sweat bursts out of the Temples, Neck and Breast, and sometimes out of the whole Body, which is extreme weak and feeble. The uterine Swooning of Virgins (for in them it arises from the Womb, as *Helmont* observes) shows it self by Anxiety, and almost loss of Breathing, the Pulse always weak and almost extinct, which abolition of Pulse and Breathing *Sylvius* takes for a pathognomonick sign of a *Syncope*. And, as to that Matter, I observed not long ago a wonderful case;

case; an old Woman, for three days time before her death, had no Pulse that we could feel in her Wrists, and yet she could speak.

§. 4. Cause.

THe next thing we inquire into, is, whence all that mischief, which attends people in a Swoon, proceeds? The old *Galenists* will have the immediate cause, to be a Defect of Vital Spirits, or a diminution and privation, not total (for that would be present death) but the remaining Spirits are forced to go back on a sudden out of the Body, and to run hastily to the heart, lest the strength of the heart should quite fail, which retrocession of Spirits they call Concentration. Concerning this see *Riverius c. 1. de Syncope l. 8.* who also says, that a defect of Vital Spirits happens four ways; either because Spirits are not sufficiently generated; or, when generated, they are dissipated and evacuated; or they are altered and corrupted; or finally, they are suffocated. The causes therefore of a *Syncope* are frequent, immoderate watching, sadness, anger, great anxiety, grievous sadness, bitter grief, acute Fevers, also in weakly persons, long Agues, excessive emptiness of the Body by fasting, labour, vomiting, sweat, fluxes, excessive loss of blood, and a sudden evacuation of water in the Dropsie. They maintain also, that this Disease does frequently rise from abundance of gross, crude, putrid, sharp, and biting meats and humours stagnating in the Body, which by their constant gnawing, as they say, do so obstruct the Mouth of the Sto-

mach and the Passages, that their Motion is intercepted, just as it is when respiration is stopt, and thus they hold, that a *Syncope* is generally caused. The Malignity also and Insalubrity of the ambient Air, also a poysonous humour or vapour, communicated by some external or internal part of the Body to the Heart or Stomach, also Inflammation, and such like things, which are able immoderately to alter or corrupt the temper of the heart, stomach or spirits, often cause a Swooning, since the strength of the Faculties consists in a good constitution of those parts. Also the Spirits alone, hurt in the manner aforesaid, communicate this evil to the principal parts and to such as have consent with them, and spoil their temper, and so cause this Disease.

§. 5.

BUt *Paracelsus* thinks, that the cause of this Disease is, the Separation of the *Synovia* (which with him is the Root and Essence of Life) from the Heart, by means whereof the salutary Star, thick Clouds being interposed, suffers an Eclipse, whereupon the whole Vital Region is beset with horrible darkness, and deadly shades. So also he maintains, that this Disease may rise from consent, that is, with the mouth of the Stomach (wherefore it is called *Syncope cardiaca* or *stomachica*) also with the womb, namely, from foul vapors sent to the heart.

§. 6.

Helmont, in a good many things exposing *Paracelsus* and his Chymical Principles, with a secret Emulation, as some passages in a Treatise entituled, *Compl. mist. element. figment. n. 41, 42, &c.* and other where, if they be rightly examined, do sufficiently show, writes that the Arterial Spirit of our Life is of the nature of a *Gas*, that is, it is a Light and a Balsam preserving from Corruption; which is seen in a palpitation, *Syncope* and *Lipothymie*. For how much of the lively colour, vital light, and moist habit of the Flesh is lost in these Fits? How is the Face presently wrinkled? For the Spirit, which formerly did as it were enliven all with a pleasant strength, immediately flies away, and is changed by a strange Air. He proceeds, since the *Archæus* is in it self a *Gas*, of the nature of a balsamick Salt, if it meet with the Air of another Salt (as when Spirit of Sal Ammoniack meets with Spirit of Salt Petre) it being easily and speedily dissippable by the Pores, forgets its duty and charge; nor is it condensed into drops, because it is made of Arterial Blood. If in fainting and death any Sweat exhale, it is the dissolution of Venal not Arterial Blood. Therefore the Vital *Gas*, because it is a light and balsam preserving from corruption, is begun to be compared to the light of the Sun. Now after these same Swoonings, the innate Spirits of the other parts, as it were smoaking, are altogether kindled by the solar light of the heart, like as the smoak of a Candle put out, touching the flame of another, con-

veighs the flame all along to that which was put out. Sometimes the Spirit of our life, because it is a *Gas*, is not powerfully and quickly affected by any other *Gas*, namely, by their immediate contact. And he explains the Cause of this Disease more exactly *tr. ignot. Act. Regim. n. 26.* where he says, *In a Swooning there is an Anodyne poyson which disperses the Spirits, and then immediately takes away sense and motion*, which poyson, he often teaches, in other places, does lie in the mouth of the Stomach, as in a central point and root, and principle of life, of digestion of meats, and of disposing them to life.

§. 7.

Willis supposes not only a kindling, or blazing of the Blood, (by means whereof he thinks, supplies for Spirits do daily depart from the Blood) but also a nitro-sulphureous ferment, whereby he thinks a flame is really kindled. But *Lover de Corde* denies this: for though, as he discourses, there be sulphureous particles in the Mass of Blood, yet the Blood can never blaze, because of the abundance of watry particles. In a word; he concludes, that this actual deflagration, maintained by *Willis*, can never be without utter destruction to life. Now *willis* himself thinks, That the cause of this Disease lies in the very Blood, in as much as it is not kindled enough, nor circulated with vigor, that is, because the Blood, by reason of the Sulphureous particles too much blazed out or depressed, is become in a manner vapid and lifeless, and therefore little is kindled in the Heart and Lungs. Besides, when the Animal regiment

is

is sluggish, the Heart being destitute of a full Influx of Spirits, does not sufficiently move the Blood, so as to make it ferment briskly and kindle: which any one may observe in weak People, when they come out of a long sickness, in such as have lost much Blood, or have had great Evacuations, or are consumed with Age. He also holds, That the cause of this Disease may be, because the Blood is too much kindled in the Heart, and he proves it by this, Because the Blood, through the sulphureous Particles being too much dissolved, and put into effervescence, is kindled more than it ought, and thence a too violent heat is produced, especially if it be not presently ventilated by the Air; as acute Fevers and other hot Diseases do show. Nor also does he deny, That this Disease sometimes arises from the Influx of the animal Spirits being hindered.

§. 8.

Sylvius is almost of the same Opinion with Willis, and presupposes, That our natural life depends upon the conservation of the fire and innate heat perpetuated in the Heart, and dispersed every way together with the Blood for the vivification of each Part; which fire he thinks is kindled by the fermentation of Blood in the Heart, arising from the lixivious and volatil oily Salt of Bile, and some acid Spirit, either *lymphæ* (which he supposes to be Acid) or pancreatic Juice, so it be but mixt with the Blood: Therefore when this effervescence in the Heart ceases, then the vital Fire ceases to be kindled in the Heart, then the

Blood is no more rarefied, neither is the Heart irritated to contraction, nor contracted, nor is the Blood any more forced into the Arteries, nor are the Arteries expanded, and by consequence the Pulse is neither perceived in the Heart nor any where else, and thence arises a Swooning. He also thinks, it may be produced by reason of few or no animal Spirits flowing to the Heart; upon which the contraction and action of the Heart must necessarily cease. Furthermore, he makes no question, but Blood may be bred of a volatil sharp Salt, especially in the Plague and other malignant Diseases, which is over fluid; or (as it often proves) the Blood may be too grumous and coagulated by an Acid, because of the diminution of the Bile or its sharpness.

§. 9.

Cartes and his followers *Hogelandus*, *Brochhausen* and others, as they take the Spirits for the subtilest Parts of the Blood, so they think, they are also produced by rarefaction in the Heart. And they ascribe this ebullition wholly to a certain vital fire, lodging in the Heart, which they call *the shining and vital Flame*. Yet *Cornel. Consent. Phys.* 7. p. 293. *Needham de form. fœt.* p. 130. and others refuse them. The *Cartesians* therefore derive a *Syncope* from the extinction or stifling of this vital Flame for a time. And they think this may be done divers ways, when perverse Spirits contract the Heart more than usual, to wit, when they are conveyed by the little Nerves which go round the Orifices of the Heart: And by these means, upon

upon sufficient store of Spirits being denied, and the mutual stock of circulating humors (in which regard either motion ought to be continual) being diminished, and the determination into the Muscles at that time ceasing, it happens, that a Man's Body falls suddenly to the ground, like a Logg; till by little and little he come to himself again, the Clouds of the circulating humors arising from the Blood being dispersed, and that either quickly or in a longer time, according to the greatness of the Disease, as *Broechausen* discourses elegantly, *Art. 105. in Oecon. Anim.*

§. 10.

Let us now take our own Task upon us. And the Doctrine of our Vital Principle is necessary to be known; before therefore we say much of the Disease, we will open that. Because from thence is all Motion, Health and Life (and since the reason of contraries is the same) so also is a Disease, yea Death it self. But such diversity of disagreeing Authors about this presents it self, that you can scarce tell whom you may safely trust. Some there are, who affirm, the Spirit of the *Embryo* is continually encreased in the Spirit of the Mother, for this reason, that the *fetus* breaths not in the Womb. We will now pass by *willis*, *Helmont*, *Cartes* and *Sylvius* their opinions, which we gave you in their places. Yet their opinion is the most received, who, to determine the nature and existence of the Vital Spirit, conclude and say, That it is the most subtil or salino-sulphureous part of the Blood, which by

its intestine Fermentation, separates and exhales from the rest, called by the name of Spirit. The Elaboration therefore and Restitution of this Vital Spirit they wholly ascribe to the Fermentation of the Blood, and hence they make no scruple to derive the restitution of lost health; but even the causes of Diseases from it. But *Majou in respir. pag. m. 136.* maintains a peculiar opinion about this matter, where he says, the Fermentation of the Blood is made within the substance of the Lungs, inasmuch as the Nitro-aërial Spirits, supplied by the Air, meet with the Salino-sulphureous Particles of the Blood, and so produce a due Fermentation in the Heart, which opinion nevertheless, that is, that the Salt of the Air is corporally mixt with the Blood, is called into question by *D. Bohn in tr. de Aeris influxu in sublunaria*; but he rather judges, it is only the motion of the Air, which conserves the Vitality of the Blood and the whole. We have often said, that by Fermentation Authors mean nothing else but an intestine motion, in which an Acid, and something lixivial or urinous meeting together, do put the rest of the Particles, that make up the mixt Body, into motion. For the Bond of Mixtion is from Salt; as long therefore as the Salts lie still without tumult in mixt Bodies, other Particles intervening, and as long as they take their natural rest, so long Bodies remain in their natural texture and consistency. But if by means of dissolution, the frame of the mixt Body grow loose, and the Salts are at their own liberty, and desire presently to unite themselves, but by reason of material Particles in-

termixt, some Salts cannot closely unite; hence comes Fermentation: because under that union and mixture of Salts the unitable parts are joyned, of which matter the famous *Ettmullerus* discourses admirably well in *Collegio M. SS. chymico*. And from these things it is evident, where an Acid fails, that there can be no Fermentation of the Blood, which Acid also almost all Physicians (especially *Tachenius*) prove to be in the Mass of Blood, by this, for that the Blood in its natural state is perfectly salt, and all Salt of a saltish taste consists of an acid and urinous, which two when they meet together, and that they never do without an Effervescence, give a third compounded Salt, namely, a saltish Salt, which is neither acid nor urinous, but partakes of both. Yet some deny this, and rather judge, that whatever is attributed to the subtilty and Mercurial activity in the Blood, it is only owing to our Spirits and Vital Principle; and they endeavour to prove it by this, because it happens in the first generation of Blood in the *Fœtus*, when there are no acid Particles in a Womans ovary, which, meeting with something urinous and exalted, may make up Blood; but they hold, that the saline and fat Particles, being in process of maturity digested by virtue of the Spirits, and exalted, do give it its purple colour; and they derive this Vital Spirit from a saline, volatile Principle, upon which its activity does most depend, as *willis*, *Sylvius*, and several others have done. *Helmont de aura vit. p.n.* 443. is of the same opinion, where he says, that our Spirits are only the most subtil and saline Particles of the Blood, endued with Vitality.

Barnerus in physicis confirms the same, showing, that our Constitutive Salt consists of urinous Volatils. Light delights in Salt, Salt has light and life in it as *Kircher. de natura lucis* discourses: And some bring this reason against Fermentation, namely, That our first Vital Principle is finished without any such intestine tumult, and of what is taken separates what is convenient for its nature. The Vital Spirit residing in the Blood superadds light only by Irradiation, and converts into Spirit. Therefore men cry it up for an eternal verity, That all heat in our Body is from Blood, which yet is not hot of its own nature, but that all this heat depends only upon our Vital Spirit, which is in and without the Blood. Now as long as the Blood, endued with this Vital Spirit, is diffused by the Arteries into the Bowels and Limbs, so long the vigor and salutary heat of the parts is good; but upon the recess of heat, life recedes, and then the whole Body is cold and torpid. Therefore they wholly ascribe all the perceptible heat in us to our Spirits, the motion whereof, as it is swifter or slower, so likewise our Vital heat seems to be distinguished gradually. And I do not doubt but I can adapt this opinion, to what I am now going to say. These things therefore presupposed, it is naturally evident, whence Swooning, loss of strength, &c. yea, death it self proceeds; namely from want of Spirits, which do fail, if either they be not bred in a sufficient quantity, through want of adequate matter, which proceeds either from not using a spirituous food, or (though they do) from bad digestion, or from an excessive Evacuation of Spirits, by

a Looseness, Bleeding, the *Lochia*, &c. so also when they are bred, they may be dissipated by *Venus*, or Over-purging, which things are usually attended with fainting. Also violent Labor, Passions of the Mind, too much Watching, and such preternatural things may cause a defect of Spirits. And these Spirits, as bright as they are, yet in Swoonings they are darkened by divers causes; from the diminution and extinction of which light of the Spirits *Helmont tr. de aur. vital. p. m. 441.* says, That all defect of heat proceeds. For it is plain enough, That the Heart is a Muscle, and so not only the impulsive virtue of animal Spirits by the cardiac Nerves, but also a proper Influx of Spirits with the Blood, is required to its vibrating and continual Motion. Like as always there must of necessity be a continual Afflux for the altering of any motive Power; for it is evident, That, when Nerves as well as Arteries are cut in any Part, Motion ceases. Also *systole* and *diastole* are performed, and Blood mixt with *Serum* is sent to the external Parts by the help of Spirits. These things in general ought to be premised; from whence we may easily guess, that there are several causes of Swooning, namely, loss of Blood, whereupon the animal Spirits are not bred in such store; but most part of them flie into Air. Wasting, fixation or degradation of the Spirits destroy the energy of the Blood, and so cause Swooning. Also a dissipation or oppression of Spirits may take its rise from a crude Acid, whereby the volatil, saline Particles are in a manner suppressed, either from the Spleen, Womb, *hypochondria*, or some other

Part. I have often admired, why sweet scented things, yea, spirituous *effluvia* from a Cat, Roses, yea from a Maid (such an instance I knew in a Student) should cause swooning: I could never hitherto assign any other reason, than that the volatil Parts coming from these things, do joyn themselves perversely with our Spirits, and are forced to strive, because of Particles of a different condition. Swooning is often caused by a fright, because in a fright the Spirits fly very disorderly and violently into the whole and every part of the Body, wherefore these Spirits also fly too plentifully and disorderly into the Heart and Arteries, and straiten the Heart and Vessels, whereupon the Blood that is got into the Heart, because of the narrowness of the straitened Heart, cannot rarefy much; wherefore also it is not driven with any strength into the pulmonary Arteries, and thence into the left Ventricle of the Heart, and out of that into the Arteries; hereupon immediately less store of animal Spirits is separated and flows into the Parts, whence Swooning and Paleness arise. And because Fermentation is much abated in the Blood, therefore any peccant Humor, that abounds in the Blood, is not mixt with its Mass any more, but some of it separates by the Pores of the Arteries into the Mouth, where it causes bitterness, into the Stomach, where sticking by its viscosity among the Membranes of the Stomach it causes loathing, and by its Acrimony vellicating the Nerves, it causes Vomiting when the Patient comes to himself. And let this suffice for the causes, which we may guess at by the *juvantia* and *ludentia*. Now therefore we

will proceed to the Prognostick

§. 11. Prognostick.

ALL Swooning is a grievous Disease, because it is terrible; for it carries a show of death; yet it is familiar and frequent in melancholists and hysterick Women, and is seldom Mortal: for it goes more easily off in such, yet it leaves a languishing of all the Powers behind it. It is also Hippocrates his prediction 2. aph. 41. and in Coacis, *That they who faint often without a manifest cause, dy suddenly.* If the head of one in a Swoon fall upon one Shoulder or the Breast, if the Pulse and Breath intermit for a long time, also if the Face be green, black and blew, and if a sneezing Medicine have been taken in vain, death is at hand. Swoonings also in a Consumption denote death to be in the pot. But if one Swoon at odoriferous things, or bleeding, or at the scent of any Animals, there is no great danger; for upon removal of the cause the effect is gone. Nor is that so dangerous, which comes from the Stomach: But if trembling and convulsions follow, death is at hand.

§. 12. Dietetick cure.

NOW having considered the ways, by which this Disease comes, and what may be foretold concerning it; it remains, that we proceed to the three kinds of Remedies, Diet, Chirurgery and Pharmacy, comprehending under Diet, not only Meat and Drink, but according to general custom, all the Non-naturals, which being used amiss, as they may destroy a good Constitution, so, being used aright,

they are able to preserve one in a natural State, yea and to cure a Disease. As to Air therefore, seeing according to Hippocrates lib. de flatibus, it is the greatest author and ruler in all things which befall the Body, all care imaginable should be taken, that it may be pure, serene and lucid: And when a Man cannot have one so good as he could wish by Nature, it must be rendred such by Art; that is, if it be presently required to lay the raging of the Spirits, a cold one must be chosen either by Nature, namely a Northern one, or it must be made so by Art, i. e. by strewing the Floor with Flowers of Poppy, Roses, Water-Lily, Leaves of Plaintain, Purslain, Housleek, &c. If there be need of a contrary operation, it must be made so by the heat of the Sun, Fire, or some other means. For Salmuth cent. 3. obs. 7. has observed, That the commotion of the Air has put some in a Swoon. And the Smoak of Charcoal is as bad. Schenckius also has observed, That the Emperor Jovianus travelling in mid-Winter to Rome, and lodging in a new plastered Room, which had a great deal of Charcoal burnt in it, to dry the Plaster, dyed that Night. The Meat must be of easy Digestion, and good Juice, moderate in quantity, wholesome, taken at due times and in due order, agreeable to the Age and Sex. Gelly Broths of flesh are good, and Broths seasoned with Aromatics, and Galen l. 7. Meth. med. c. 6. says, That such as fall into Swoons must be relieved by eating Cock's-stones. And this must be taken special notice of, That such as are subject to this Disease must not continue long fasting, but may every Morning eat a little Bread and Butter.

Butter. The *Drink* must be Wine; for this is the most powerful reparer and restorer of our Spirits, and the recruiter of all our Faculties. Wine, says *Helmont*, though it be hot, yet since it is most grateful both to the Palate and Stomach, taken moderately in hot Diseases, is a most acceptable Guest to the Spirits, and a Medicamentous Aliment; but Wine cooled in Ice the *Italian* way, must be utterly avoided: for one in *Schenckius* l. 2. de anim. deliq. & sync. obs. 1. upon drinking such chill Wine after long playing at Ball in the Sun, swooned. I saw the like in *France* upon drinking cold Beer, after playing at Ball. So *Hildanus* cent. 5. obs. 27. relates, how one died in a Swoon upon drinking cold Water. Too much *Exercise* and *Motion* must be forborn, because many Spirits are thereby exhausted, and the saline volatil Parts fly away, an Acid remaining, and so People have fainted. Sleep, the better part of a Man's life, if it be moderate and quiet, refreshes the Mind, and the whole Body, and recruits the Spirits, when consumed and sinking with labor, care and study, which on the contrary too much watching is able to destroy. But the Physician must take care to judge aright, and allow something to custom. The *Passions of the Mind*, as far as possible, must be subdued by reason, and their violence must be repelled by theological advice; for what is better than moderate Joy, and what more hurtful than immoderate? My Wife's Grand-father died of it, and the same thing happen'd to a Mother upon the return of her Sons from a Battel, in which she thought they had been slain, who swooned away through

excessive Joy and died, according to *Livy* l. 22. c. 7. So *Camerarius* has collected several instances of mortal Swooning from Anger, that short Madness. Of Love, See *Riverius* l. 8. pract. med. c. 1. Several Practitioners have observed it from Grief, Study, Care, Sitting-up, and such other things, wherefore golden Mediocrity must be observed. Thus it comes from Jealousy, Desire, Fear, Emulation and Envy. I have known it come from the horror of a *Spectrum*, the sight of a Cat, Crabs, a Sheep's-head, and other cases of Antipathy, of which see the *German Ephemerides*. The *excreta* must observe their natural Order, otherwise they cause great inconvenience in this Disease, for it may easily be caused by frequent and violent Purgers, Vomits, Bleeding, Scarifying, Sweat, Hemorrhoids, *Menses*, Child-bed-Purgations, Evacuation of Pus and Water in Abscesses and Dropsies. We forbid the frequent use of *Venus* which killed *Cornelius Gallus*, and *T. Haterius* in *Valerius Maximus* l. 9. c. 12. who yet will not acknowledge that for the true cause of their death; for he says, But why should we invent deaths, since it was not their Lust, so much as *Humane frailty*, that took them away? For the end of our Lives being exposed to various and secret causes, sometimes things that do not deserve it, bear the blame of our death; when, notwithstanding, they rather happen at the time of death, than any way cause it. I know a Man, who, when ever he lies with his Wife, Swoons, and yet he loses not his labor.

§. 13.

L Et these things therefore suffice for the Nature, Causes, Subject, Differences and Signs of this Disease. It remains, that we give you the Method of Cure; and first we will give you the old *Galenists*. They, in the Fit, lay the Patient on a Bed, and sprinkle his Face with Rose-Water, or some other cold Water with a little Wine in it, to raise him. If the Swooning come from an hysterick Fit, they hold Castor to the Nose or *Asa fetida*, or some stinking Fumes. If it proceed from want of Food or loss of Blood, they refresh the Patient with generous Wine, and give him a Crust of Bread dipt in it, and out of the Fit they give him restorative things, as very nourishing Spoon-Meats, Gelly-Broths, and such things. If it come from poysonous Vapors bred within a Man or brought from without, then they give various Alexipharmacks with good success. But when it comes upon drinking of Poyson, they give a Vomit; and if a heat be felt in the Stomach, they give Milk, Butter and fat Broths. If it come from over-purging they give *Venice Treacle*, *Mithridate*, and other Opiates inwardly, and apply them outwardly. When too much Sweating causes it, they cure it by pouring cold Water, or Rose-Water, or Vinegar on the Face, or by applying cold Epithems. But if the Fit come from Terror or Fear, as it often does, they order Blood-letting, and give spirituous things; they also recall the suffocated Spirits to the out-side of the Body by Frictions, Ligatures, Cupping, &c. they use

Shouting aloud, Sneezing, and Pulling the Mouth, Nose and Fingers. But out of the Fit they use another Method, namely, they make the Humors obedient to Nature by Preparatives, and in a cold Cause they use these following, Syrup of Citron-Rind, Pomegranate-Juice, of Apple, *Oxymel simplex*, &c. But in a hot Cause they use Syrup of Sorel, Violets, Roses, Water of Bor-rage, Bugloss, Wood-Sorel, &c. After these things they use a gentle Solutive (unless the Disease arise from over-purging) to carry off the peccant Matter. Their Purgers in this case are these following, *Manna*, *Cassia* new drawn, *Rhubarb*, *Tamarinds*, &c. they also give gentle Clysters. When it comes from viscid Phlegm or putrid Humors, they give Vomits, but forbear all strong Evacuators. Avertents are of use in the Fit and out of it, such as Frictions, Ligatures, Cuppings, &c. Then they proceed to Strengtheners; in a cold Cause these things are good, *diamoschu dulce*, *diambra*, *electuarium de gemmis*, Oyl of Cinnamon, generous Wine, all Cordial Waters, Water of Betony, Citron Rind, *scordium*, Tormentil, Cinnamon, Meadow-sweet, and Syrups made of the same, *Mithridate*, *Venice-Treacle*, *antidotus Matthioli*, and several other things. In which case they also use externals; for example, an Epithem for the Body of Cloves, Cinnamon, Saffron, *lignum aloes*, and Water of Baum, Roses or Majoran, or they apply Bags of the same to the Heart. But in a hot Cause they use Coolers, such as simple distilled Waters of Cordial Flowers. *Job. Baptista Sylvaticus* highly commends distilled Water of Flesh in this Disease, and will have

have it to be of the same strength with the Flesh it self, from which it is drawn, though it nourish less. Syrup of Limons, Apples, Pomegranates, *species diamargariton frigidum*, and Conserve of the four Cordial Flowers, are good. Externally they apply a Cordial Epithem made of Lignaloos, Sanders, Citron Peel, with Water of Borrage, Bugloss and Roses, or they make Bags of the same.

S. 14.

THE Chymists, for comforting the Vital Spirits, and all the Spirits of the Heart and Body, do prefer Essences and Tinctures before Spirits on many accounts. For this purpose they commend Gold, as the highest *arcanum*, and they ground their Opinion upon a Philosophical foundation, namely, that what the Sun is in the Heavens, the Heart in an Animal, Wine among Vegetables, the same is Gold among Minerals; and they laugh at *Scaliger's* Opinion, *viz.* That the Nature of Gold is very far distant from our Nature, and therefore that our Heart cannot in any wise be relieved by it. But whatever others say, *Paracelsus* with his Father *Hermes*, extols *aurum potabile*; and to Gold he subjoins Mother of Pearl in form of an Oyl or Balsam, Essence of Saffron, Baum, &c. He also commends Antimony, which he calls the restorer of all the Faculties in the Body, and he in several places compares its solar Sulphur to Gold; and he magnifies *arcanum sulphuris*, *aqua vita*, Emerald and Salt of Pearl (which *Crollius* in his *Basilica Chymica*, says, is a most noble Cordial, and in temperature and operation next to

potable Sol.) *Arcanum* and Quintessence of Pearl in *Hartman* are good for these uses, and *flores margaritarum* and *corallorum* in *Schroder Pharm.* l. 3. c. 6. Tinctures of Coral prepared with various *menstrua*, Liquors of Gemms, Rubies, Granates, Topaz, Jacynth, and others are highly valued by them. These are among the Compound Waters, *aqua caponis*, *carbunculi*, *aurea*, *confortativa usitata*, Spirit of Roses, Treacle, Vitriol camphorate, Spirit of Wine with the diaphoretick Salt of *Mylius Antid.* lib. 4. c. 2. Spirit of Soot, *terra sigillata*, &c. also Oyl of Cinnamon, Amber, Mace, *lignum rhodium*, &c. Salt also of Pearl is good, and of Coral, *angelica*, *scordium*, volatil Salt of Harts-horn and Vipers, also Amber dissolved in Spirit of Wine, of which see *Beccherus Supplem. ad Physic. subterr.* p. 79. Also Wines of Bugloss, *Angelica*, Hippocras, and strengthening *clareta*, such as *Quercetan* has in his *Pharm. rest.* lib. 1. c. 9. will be of good use in this case, of which various Receipts might be given, but we leave them to the Judgment of the Physician.

S. 15.

HElmont, when his Head ran round, and he staggered, with fear of fainting, cured himself by a gentle Vomit; for so he cleared the Stomach of the dregs, whereby that turning *Idea* was impressed (for he suspects the cause to ly in the Stomach) afterwards, when he had eaten some Meat, and drunk a little Wine he grew better: But when he found a Relapse, he perfectly cured himself with Sulphur of Vitriol. And for taking away

the anodyne Poyson, that disperſes the Spirits, and is urgent in this Diſeaſe, he commends divers ſpirituſous and volatill things, whereby the Spirits grow clear, and the light of Life ſhines forth again.

§. 16.

Ultis diſtinguiſhes Cordial Medicines into two kinds, namely one which chiefly and immediately affects and kindles the Blood and animal Spirits; another which allays the immoderate Efferveſcence of the Blood and Spirits. In the firſt Claſs he places ſuch things as exalt and kindle the Spirits and Blood; ſuch as hot compound deſtill'd Waters, Tincture of Saffron, *elixir vitæ Quercetani*, Tincture of Salt, Tartar, Steel, and other hot things; ſuch as *aqua mirabilis*, Cinnaſon, Cloves, Orange Peel deſtill'd with Wine, to which volatill Spirits may be added. In the ſecond Claſs he puts cold deſtill'd Waters, temperate Cordial Waters, all Acids, nitrous things, &c. Here is a Receipt;

Take of odoriferous Apples, Raſberries each fix Ounces, *confeſſio de hyacintho* one Drachm, Syrup of Violets one Ounce, Spirit of Salt, what is ſufficient for a grateful Acidity. Or,

Take of Spring Water one Pound, Juice of Limons two Ounces, Sugar one Ounce and an half. Mix them. Make a Julep.

Alſo cordial things abounding with a volatill Salt may beneficially be given both in Fevers in reſpect of the Blood, and in Swoonings and ſudden Faintings, ſuch as

Spirit of Harts-horn; Treacle-Water, Spirit of Blood, of Man's-skull, Spirit of Sal Ammoniack, and Salt of Vipers, *crystallum minerale*, *pulvis à chelis*, Flowers of Sal Ammoniack, *bezoarticum minerale*, &c. Nor are they the meanest Cordials, whoſe Baſis is an *alkali* Salt, ſuch as oriental Bezoar, Coral, Pearl, all teſtaceous Powders and Stones, concerning all which things you may conſult the Author himſelf, in his diſcourſe of Cordial Medicines.

§. 17.

Sylvius, in fear of a Swoon, and lighter Faintings commends the following mixture, taken by ſpoonfuls;

Take of Water of Mint two Ounces, *aqua vitæ Matthioli* or Tincture of Cinnaſon half an Ounce, Oyl of Cloves fix Drops, Syrup of Scurvy-graſs one Ounce. Mix them.

The ſame excellent Perſon does upon daily experience commend in this caſe volatill Salts and aromatick Oyls, things that eaſily diſſolve and incide every Viſcid, and that temper and correct every Acid and Auſtere. Sometimes alſo he adviſes the uſe of things that diſcuſs Vapors and Wind. And eſpecially if the Patient be liker one dead than alive, ſo that he can neither open nor ſhut his Mouth, much leſs ſwallow as he ſhould, then he will now and then put into the Patient's Mouth by a Tunnel three drops or more of the ſoreſaid Oyls; incorporated by circulation with ſpirituſous things.

§. 18.

THe *Cartesians* commend all spirituous saline volatil things, which can kindle the vital Flame, such as are all spirituous Waters, namely of Cinnamon, *carbunculi*. all that are cordial and odoriferous, Spirit of Citron, Spirit of Musk, Amber, Civer, Cinnamon and Cloves (yet here it must be observed, that Oyl of Amber and Cloves, joyned with spirituous and camphorate things act more effectually) and several other things of the same nature, which subtilize the Spirits, and kindle the sacred fire. Of which more afterwards.

§. 19.

Un^der place among Cordials all those things, that illuminate and make volatil Man's Spirits, as the Rays of the Sun do in the large Universe, and that are able to raise and quicken the Spirits, and join themselves with them, and withal maintain an equal Fermentation of the Blood. When therefore a Swooning or sinking of Spirits, proceeds from an excessive dissolution of the Blood, that is, from the abundance of an *Alkali*, sulphureous and spirituous things, yet moderately acid, but volatil, must be given, that a due consistency may be restored to the Blood, and its deficient Spirits and Fermentation may return. For which purpose I should advise strong Wine-Vinegar volatilized with Spirit of Wine, *tinctura bezoartica Michailis*, Cinnamon Water, Spirit of black Cherries, or Roses with Amber. For

the sake of Beginners therefore take the following Receipt;

Take of Water of Cinnamon half an Ounce, Vinegar volatilized with Spirit of Wine one Ounce, Spirit of Roses with Amber one Drachm, Syrup of Cinnamon six Drachms. Mix them, and give a spoonful or two at a time.

Cinnamon, Musk and Amber (which last the English say, is found in the Bellies of Whales) excel all other cordial and strengthening things. The following corroborating Balsam may be made of these odoriferous things.

Take of Amber one Scruple, Musk half a Scruple, *confectio Alkermes* two Drachms, Spirit of Roses, black Cherries each three Drachms, *aqua cordialis Herc. Saxon. elixir vite Matthioli* each one Ounce. Let these things be mixt and circulated for eight days or more in a Vessel well closed. Then let the Balsam be filtered and kept for use. Or,

Take of Water of a Stag's-heart, Baum with Wine each two Ounces, Cinnamon with Borrage one Ounce, *confectio Alkermes* one Drachm, Bone of a Stag's-heart twelve Grains, Syrup of Clove-gilly-flowers one Ounce. Mix them.

But if a volatil Acid be peccant, it will be advisable to add things that precipitate or bind an Acid; for which purpose this following is not the worst.

Take of Water of Borrage, Bugloss, Roses, Baum, of Juice of Citron

Citron each three Ounces, Cinnamon two Ounces, oriental Pearl prepared half a Drachm, burnt Harts-horn prepared three Drachms, *saccharum perlatum* half an Ounce. Mix them. Make a Pearl-water. Or,

Take of *aqua cordialis Herc. Saxon.* three Ounces, Essence of Baum one Drachm and an half, Tincture of Coral prepared with Spirit of Harts-horn half a Drachm, Syrup of Borrage Flowers six Drachms. Mix them. Give a spoonful at a time.

Or the following Powder;

Take of Oriental Pearl prepared half a Drachm, red Coral, Bone of a Stag's-heart each one Drachm, the five precious Stones half a Drachm. Mix them. Make a Powder. The Dose one Scruple. Or,

Take of *magisterium cordiale* two Drachms, *Cornu cervi solare* one Drachm, Bone of a Stag's-heart one Scruple. Mix them.

For all things may here be made use of which can imbibe an Acid, especially if the Swooning proceed from a coagulation of Blood in the Heart. To which end, the noble and experienced *Dn. Major* commends Spirit of Sal Ammoniack, that most powerful volatil *Alkali*, combined with Spirit of Wine camphorate, and Oyl of Amber, for a saline oily Spirit is made of it. Spirit of Harts-horn or Soot joined with Camphore will do the same. And in this case I must commend *Sachsus* his saline volatil restorative Liquor, for restoring and illumina-

ting the Sun of the Microcosm, which Remedy is usually made of Spirit of Cinnamon, artificially and curiously joined with destilled Oyl of Amber, Juniper and volatil Salt of Harts-horn. And upon this occasion I am willing to communicate my corroborating Essence.

Take of Spirit of Wine with Amber rectified half a Pound, purest Salt of Tartar one Ounce, get it over by destilling the Spirit. To which rightly exalted add of Oyl of Cinnamon, Mace, Amber as much as they will take up. Then add of Essence of Amber made with Spirit of Roses one Ounce, Spirit of Sal Ammoniack rectified one Ounce and an half. Make according to Art our corroborating Essence.

The taking of a few drops of this Essence, greatly refreshes the Spirits, dissolves coagulated Blood, destroys any Acid, and maintains an equal Fermentation and Motion in the Blood. In the coagulation of the Blood also *Sperma ceti*, found in the Brain of a Whale, and mixt with other Cordials, taken inwardly, is reckoned a second rate Remedy in Swooning. But if the Disease seem to climb up from the lower Parts, and if any thing convulsive appear, especially in Women, the Medicines must be more spirituous and sulphureous than saline. But in burning Fevers and Lipothymies arising thence, Cordials fortified with Acids are very good, because they restore and centre the Spirits exhausted by volatil Medicines, and dissipated by Sweat; for which end these things following are good, namely, *mixture simplex*, the Acid volatil Spirit of

of Vitriol. Here is a Receipt ;

Take of Conserve of Pulp of Citron two Ounces, red Roses one Ounce, *confectio Alkermes* half an Ounce, sweet Spirit of Vitriol twenty five drops, *syrupus acetositis citri* what is sufficient. Make an Electuary. Or,

Take of *aqua cordialis frigida* two Ounce, Water of Baum, Juice of Citron each one Ounce, *confectio Alkermes* one Drachm, Water of Pearl one Ounce, *tinctura bezoartica Michaelis* twenty drops, Syrup of Pomegranates six Drachms. Mix them.

Water of Cinnamon and Mint is good in a Swooning from the Stomach, joyned with other Stomachicks both internal and external ; *spiritus stomachicus Mynsichti*, *Angeli Sal.*, and *stomachicum Poterii* are good. But out of the paroxysm a gentle Vomit must be given, to carry off the peccant viscid Matter ; and in this case various Absorbents and Precipitants are good. And in all Swoonings the *aqua sanitatis* of the Ancients is good, and Glukrad's Water of Man's Blood in his Notes upon *Beguin. lib. 3. c. 1.* also Essence of Man's Blood in *Faber Myrothec. Spagy. lib. 1. c. 8.* Essence of Civer, *ibid. c. 26.* When these things will do no good, I think we ought with the noble *Ettmullerus* to proceed to Infusion both of volatil Acid, and volatil alkalick Liquors, as occasion shall require. Among Externals we commend divers Epithems applied with a scarlet Cloth. Here is a Receipt or two for young Physicians ;

Take of *aqua carbunculi* one Ounce and an half, *naphæ* one Ounce,

Powders for a cordial Epithem one Drachm, Spirit of Citron Peel one Drachm and an half. Or,

Take of *acetum bezoarticum* one Ounce, Spirit of Citron one Drachm. Mix them for the Wrists.

Or Bags filled with cordial Powders and wet in these or the like Liquors, may be applied. Or make the following Liniment ; or some like it ;

Take of Balsam of Amber, Cinnamon, *Angelica*, Cloves each half a Scruple. Mix them. Make a Balsam to anoint the Region of the Heart. Or,

Take of destilled Oyl of Citron, Baum each half a Scruple, liquid Amber eight Grains. Mix them with a sufficient quantity of Oyl of Nutmeg.

Or for anointing the Pulses ;

Take of destilled Oyl of Baum, Citron each half a Scruple, *carbunculi* six drops, *lignum Rhodium* four drops. Mix them.

The Region of the Heart may be rubbed with some volatil oily Salt, or some volatil Spirit.

Balsam of white Amber rubbed on the Nose, also Balsam of Amber and Cinnamon given to smell to, and several other things raise a Man out of a Swoon.

If it be a Woman Patient, and there be any suspicion of hysteric Fits, hold a piece of burning blew Cloth to her Nostrils and other Anti-hystericks. Also Spirit of Sal Ammoniack prepared with Quicklime

lime is good here, because it best penetrates through the Nostrils to the Brain ; it must be held to the Nostrils, and Essence of Castor must be given inwardly.

Here also all things are good both inwardly and outwardly, which are good in an Apoplexy ; *aqua vite* may likewise be poured into the Mouth.

The Urine is often made turbid in this Disease, because the mixture

of the Particles is disturbed, which is restored by Sudorificks.

If one fall into a Swoon after over-purging, Spirit of Treacle and Cinnamon-Water will be very proper, or Treacle may be applied outwardly to the Stomach.

In a Lipothymy upon Blood-letting, putting Salt into the Mouth, and rubbing the Tongue with it, will do good, as *Horstius* says.

The End of the Second B O O K.

B O O K III.

Of Diseases of the Abdomen.

C H A P. I.

Of the Heart-burn, Squeamishness, Belching, Vomiting, Rumbling in the Guts, Heat of Stomach, and Want of Appetite.

§. I.

BEfore we go about to describe the Diseases of the *Abdomen*, it will be worth the labour, yea, it is of absolute necessity, to premise a few things concerning the Nature and Use of the Stomach. And before we proceed to the preternatural state, we will briefly touch upon the Natural, namely the abstruse work of Chylification, to the end the Faults of it may be more accurately known. The greatest part of the Ancients were of Opinion, That Chylification was performed by the heat of the adjacent *viscera* after the manner of Elixation, that is, as Flesh is boiled in Water, instead whereof drink is, so they think Meat is boiled in the Stomach. Others have thought, That

this Chylification was performed by a certain fictitious chylifick Faculty. Some of them think, That a certain melancholick Humor is poured out of the Spleen through the *vasa brevia* into the Stomach, by which acid Liquor, they would persuade us, the Food is dissolved: And some of the Moderns are of this Opinion, among whom is *Helmont*, that great Philosopher by fire. For he says, That without all controversy both Meat and Drink are dissolved in the Cavity of the Stomach into a diaphanous Cream, and he adds, That this is done by virtue of a Ferment manifestly Acid, which is borrowed from the Spleen. But a more curious Anatomy has destroyed this opinion at one blow, which shows, That in live Animals Blood indeed does descend from the Stomach through

through the *vasa brevia* to the Spleen, and is poured into the splenick Branch; but that nothing can come the contrary way, that is, from the Spleen to the Stomach; because the communication of this splenick Acid by the *vas breve* is hindred by a Valve. And so there is an end of that Figment. Our Opinion is, That Chylification is performed by way of Fermentation, with the help of Animal Spirits, and a certain acid Volatil, that is, a salino-ammoniacal Humor, contained in the Stomach, perhaps with the concurrence of the Pancreatick or some other Juice. First of all therefore the Meat should be well broken by the Teeth, as by Nature's Pestils, and when it is mixt with the *saliva*, and as it were imbued with the first Ferment, (for the *saliva*, as *Sylvius* testifies, *Disp.* 1. p. 8. consists of Water, Salt and Spirit, whence its penetrative and fermentative virtue has its rise) It is sent down the Gullet to the Stomach, and there, by that juice, which is proper and domestick to the Stomach, is transmuted into a sort of pulraceous Liquor, not unlike to Barly-Cream. This Ferment in Man scarce exceeds the quantity of an Ounce, and sticks in the folds, or innermost Coat of the Stomach, being carried thither from the minutest Glands, with the Animal Spirits, which dissolves and by its volatility subtilizes the Meat well chewed, and moistned with Spit-tle, and well diluted, and as it were macerated with drink, and it promotes the act of Fermentation like Baker's Leven, it deduces into act the Salts partly acid, and partly volatil, wherewith the food abounds, and by their means encreases the Fermentation, and at length

it changes all into a milky Juice, sometimes Acid, sometimes volatil, which we call Chyle. And by the way we must note this, That this Ferment in live Animals is thin and clear; but in dead ones it is always viscous. For it is certain, That a sort of acid Juice is always found in the Stomach of such as are in health, which the good Women know how to save from the Stomachs of Beasts when they are killed, for Cheese-runnet: And the sowre belching, before the Food is well turned into Chyle, shows as much. Besides, the authority and reason of one most conversant in the knowledge of natural things, that Archphilosopher *Hippocrates*, confirms the same, who, *aph.* 1. *sect.* 6. says, *In Fevers and long loosen-ss, if sowre Belching supervent, which was not there before, it is good; because the weakned Stomach recovers its Acidity, whereby it is able to dissolve the Meat into Chyle, and by consequence the Patient his health.* And experimental Philosophy will prove, That the Ferment ought to be volatil, or to consist of a certain volatil Salt; for it cannot be denied, that whatever should dispose any fermentable subject to Fermentation, must always be of the nature of a volatil Salt; and the case is the same, as when Hops or Spice are added to Beer or Ale (as is usually done in Bottle-Ale) whereby the Fermentation is heightened in both. So the very volatil *effluvia* of the Vine in flower ferment wines afresh. Thus much of the natural state, we will now proceed to the preternatural.

From the depravation therefore of this Ferment (a turgescence and *Orgasmus* of other humors also arising thereupon, together with the

the Crudity and Coction of the same) all those Diseases of the Stomach are derived, which now we will more particularly illustrate.

For what is that we call the *Heart-burn*, but a sad sensation of the mouth of the Stomach, which is very nervous, arising from sharp juices, that so dissolve the continuity by violence? What is *vomiting*, but an exclusion of something found in the Stomach, at the mouth, by the perverse peristaltick motion of the Stomach and Guts adjoining, caused by sharp and heterogeneous, malignant Particles? *Squeamishness* indeed depends upon Volatil Particles, but not very sharp, so that It and Vomiting differ only in degrees. *Heat of the Stomach* is produced, when the subtil and sharp Particles of Bile, that is in the stomach, cause pain and heat in the Stomach and *œsophagus*. *Belching* is an affection of the Stomach. *Rumbling* of the Guts, depending upon sharp, acid and viscid Particles, yet Volatil also. *Want of Appetite*, which is called *Anorexia*, *Astia*, *Apositia*, *cibi fastidium*, &c. is a depravation of the Ferment of the Stomach arising from divers preternatural causes.

§. 2. Part affected.

FROM the definition it will not be difficult to gather, what is the part affected in these Diseases. And it is reckoned to be the Stomach by the consent of almost all Authors. In the *Heart-burn* we take the Orifice of the Stomach, which is wholly made up of Nerves, and looks like a net of Nerves, yea and the nervous Coat of the Stomach for the Subject. But we take

all the nervous little Fibres which make up the Stomach, for the subject of Vomiting, as we do the Cavity of the Stomach for the subject of Squeamishness and Belching. And we take the folds of the Stomach, in which the Ferment usually sticks, for the subject of want of Appetite. Concerning the secondary Subject, and the Parts which have consent with the Stomach by the communion of the sixth pair of Nerves, we shall add nothing; for they may be many: of which notwithstanding we may better, according to the law of Method, treat in the causes.

§. 3. Diagnostick.

NOW we will proceed to the doctrine of Signs, which since it is the foundation of right Cure, we may do well to lay it down aright. The Pathognomick Sign of a *Heart-burn* is pricking or biting about the Pit of the Stomach; and perhaps, when there is a great gravity and distension in that sensible, nervous Part, namely the Orifice of the Stomach, there may be a great Anxiety of Heart, difficulty of Breathing, as in an *Asthma*, Swooning and *Vertigo*: for the Spirits being enraged cause these various Symptoms. *Squeamishness* also, and want of Appetite arise from a great Mass of viscid Humors, which make dull the Ferment of the Stomach, the Animal Spirits also, which communicate Heat and Tone, are then dissipated, and as it were desert their party, that is, the Stomach, whence it cannot otherwise be, but the deserted Party must flag. By reason also of a volatil Bile, a bilious Vomit often attends this Disease; by these Signs we judge

judge the Disease is idiopathick. As for a sympathick Heart-burn, the proper Signs of the Hurts and Diseases of the Parts, by whose fault it is caused, will make it known. And the Signs of a Vomit are manifest of themselves; yet oftentimes Head-ach, *Vertigo*, trembling of the under Lip, biting in the Mouth of the Stomach, frequent and plentiful Spitting, do precede, and if the cause ly in the Stomach, and the Disease be idiopathick, trouble and pain in the Stomach will evidently precede; but if it be sympathick, then a preceding pain in the Head, Womb, or some other Part, will give you further information. And in all excessive vomiting there is Anxiety of Heart, Head-ach, Swooning, and sometime Convulsions. As for Belching, it is either sowre or nidorous. The first is peculiar to Melancholists, the second to bilious and feverish Persons. In rumbling there is Wind, which shows it self by the noise it makes, and it puffs up the Belly. Want of Appetite presently shows it self, to wit, when the Patient is averse to all Meat, so that the very naming of it turns his Stomach, and the sight of it makes him quite sick. Heat of the Stomach is shown by bitterness in the Mouth, and when Pain and Heat is felt, and also a thin moisture like Water flows off the Stomach.

§. 4. Cause.

BEfore we proceed any farther, it will be requisite to search the true Causes, out of the Opinions of divers Authors. The Antients held, That the immediate Cause of the Heart-burn is a sad

Sense, or biting pain under the Cartilage of the Breast-bone. And the conjunct Causes are sharp, pituitous, bilious, portaceous, biting Humors, gathered in the Stomach, or sharp Wind, and Vapors arising out of the Cavity of the Stomach to the Mouth of it, which irritate it. To which causes they also add excessive Heat or Cold. Among the antecedent causes they reckon divers Meats and Drinks, which are vicious and poysonous, such as Milk, herry and unripe Fruits, Fish, &c. which use to distend the Stomach, just as the Wind does the Guts in the Colick pain. They say, the internal cause of Vomiting and Squeamishness (which, as was said in the definition, differ only in degrees; for they rise from the same causes) is a dissolution and lubricity of the Stomach arising from some heterogeneous Humor contained in the Stomach, whether it be pituitous, bilious or melancholick, or mixt of these. So sowre Belching shows, That such a Phlegm sticks in the Stomach; a nidorous Belching, an adust Matter, and a bitter one, yellow Choler. And they derive the Heat of the Stomach either from yellow Choler or a bilious Vapor, carried to the Mouth of the Stomach and the Throat. But they will have want of Appetite to arise from some Intemperature, Obstruction of the meseraick Veins and Mouth of the Stomach, or from a Mass of viscid and phlegmatick Humors, which they say, breed satiety, or from bilious Matter, or some melancholick Humor, that fills the Stomach, and takes away the Appetite.

§. 5.

THE Chymists say, That saline Seeds, namely mucilaginous and tartareous, many fetid Sulphurs, and few Mercurials, cause such Diseases in the Stomach. For if mucilaginous, dirty, aluminous, styp-tick and bituminous Stuff cover the Sides and Wrinkles of the Stomach, there follows, according to *Paracelsus*, an oppilation of the Spirit of life, the Minister of all natural Actions, which being as it were taken captive and put in Chains, cannot exert its strength upon the Food it receives, nor finish the separation of the Nutrient from the Excrement, whence the Offices of Concoction are slowly performed, and weakness of Stomach, Inconcoction, short Windedness, Compression, and a thousand other Torments follow, as *B. Petrus de morb. ventr. Hermet.* says. Then he goes on §. 17. These Impurities being oftentimes tainted with foreign Qualities, infect the mechanick Spirits of the Stomach with the same, whereby the Food being changed into a dissentaneous nature produces divers Ristings and Belchings. If they have vomitive, helleborine or antimonial Faculties, they cause Vomiting and Squeamishness. But when the Mucilages have stronger Tinctures of Salts, which are sharp and corrosive, as of Lime, Vitriol, Tartar, &c. then stronger and more painful Motions and Passions are raised, especially in the upper Orifice, which is endued with exquisite sense, there are strange Appetites, Heats, Prickings, Erosions and Bitings in the Stomach, like Colick-pains. And when the Sulphur is kindled and

dissolved in the Stomach, it must need cause great Heat and Burning in the Stomach.

§. 6.

HELMONT supposes, That Crudity is in Fault. If the Meat therefore receive not both Ferments, that is, its own and the lienary aright, then it encreases the fowreness, and there is an excess of Appetite, attended with a ponnick corrosive Belching. For he thinks, Belching is either insipid, acid, ponnick or nidorous. A very weak Stomach belches out insipid; a stronger Stomach belches, acid, nidorous, bitter, sharp, &c.

He thinks, Heart-burning is caused in the Mouth of the Stomach, as in a central Point, and the root and principle of life, of digestion of Meat, and of the disposition thereof to life, namely, while the *Pylorus*, like the furious Womb, moves its excentrick *Blas*. And it is wonderful, as *Grembs* says, That the *Pylorus* should have so great a power, that it alone is able to raise such various Scenes of Tempests. For in Vomiting the *Pylorus* must always of necessity be shut; and *Helmont* contends, That through the pertinacious closure of it the Humor contained in the Stomach sometimes turns eruginous, whereupon a violent, yea, sometimes a Mortal Vomiting follows. For he tells, how he opened the Body of one that died of vomiting black Stuff, and how he found the *Pylorus* exactly closed, and nothing else amiss. A Vomit therefore in *Helmont's* Opinion is caused two ways, either by the proper *Blas* of the *Pylorus*, and then it is without Pain, or from some Provocatives, then indeed

indeed it is by the *Pylorus*, but not by its proper Motion, and therefore is troublesome. A bilious Vomiting arises, when bilious Matter is poured by the Parts adjoining, into the Stomach, then the *Pylorus* being shut, it corrupts the more, and the Contents are by the Quality of the Ferment made blew or green. So if the Ferment of the Gall be out of order, Heat, Ebullition and want of Appetite, Belching, Squeamishness and Vomiting arise: But if the Ferment of the Spleen be exorbitant, then the Vomiting is bloody. The *Pylorus* therefore is either mad of it self, or is irritated by an occasional cause, which often proceeds from some fault in the Gall, when it has in it a pontick or austere Salt, which easily straitens the *Pylorus*. Therefore when the fury of the *Pylorus* is pacified, the Vomiting will cease; of which we shall speak in the Cure.

§. 7.

Willis in the Heart-burn blames bilious, sharp, alkaline, lixivious and heterogeneous Particles carried to the Mouth of the Stomach, which do there twitch, corrugate and distend the nervous little Fibres, and by means of the Animal Spirits, cause a sad sensation. For he makes no question, but vomiting is a violent convulsive Motion of the Stomach, which therefore, he says, does arise from the explosion or great expansion of the animal Spirits, falling violently upon the Fibres of the Stomach, which Fibres are presently puffed up, and consequently abbreviated, so that the sides and bottom of the Stomach are drawn nearer to one a-

nother, and upwards likewise towards the left Orifice, so that all the Contents are forced into the *oesophagus*: Whence it cannot otherwise be, but that all things, which are able to irritate the Spirits implanted in the carneous Fibres of the Stomach, must produce Vomiting more or less troublesome. And these Provocatives may be either Humors, Vapors, Meat, Drink, Physick or Poyson, so they be but sharp. Yet with *Helmont*, he holds, That Vomiting can be caused only by the shutting of the *Pylorus*. According to *willis* it is easy to gather, what the causes of Belching, Rumbling in the Guts, Squeamishness, and want of Appetite are, from what has been said already; and it will appear more plainly, when we give our own Opinion.

§. 8.

Sylvius in the Heart-burn takes Solution of Continuity for the mediate cause, and blames an acid, fixt, sharp Ferment, made such by various Causes, and sharp Vapors of the same nature, that cut and irritate the Mouth of the Stomach, a very sensible Part, and so cause this cardialg Pain. But he thinks the immediate cause of Vomiting to be the peristaltick Motion of the Stomach and Guts inverted, caused by sharp, acid, austere and salt Humors carried to the Guts. And this inversion of the Motion, according to his Opinion, begins frequently at the place of insertion of both the *Ductus's*, that is, the Biliary and Pancreatick. And Garden-fruits, Poyson, putrid and corrupt Food, and other things help to raise a Vomiting remotely. But he will not have

have Vomiting of Blood to come from the Spleen or Liver, as most will, but only from the *Pancreas*. And he firmly holds, That the cause of Belching is Wind, distending the Stomach, and at length let go out at the Mouth with violence, arising from viscid Phlegm. He derives the loss of Appetite, and Heat of the Stomach from the same cause, namely a pituitous, viscid Humor, and sometimes from too volatil Bile. He derives loathing of Meat from vitious Exhalations, produced in the small Gut by a vitious fermentation, and rising to the Mouth of the Stomach. And he ascribes it both to Bile, and the pancreatick Juice and Phlegm, that flow into the small Gut, and are out of order, and so cause these disturbances.

§. 9.

THE Cartesians hold, That in the Heart-burn there is a sad sensation, which being presented by the Nerves to the Soul, is perceived: For the sharp or acid Particles, that corrode, or cut, or prick with their sharp Points, are in time more firmly fixt in by degrees, and so part the nervous Fibres in sunder, and shake them by vibration, which while it is continued to the Principle of the Nerves, the Sensory is violently moved by it, as by an unusual thing, and the Soul receives with aversion a sad sensation, threatening and often causing a Breach, which perception, carried to the Sense, we call Pain; whereupon the sharp Particles of the Blood being sometimes carried by a *metastasis* to the nervous Orifice of the Stomach, and vellicating that upper Orifice too much,

produce an intolerable Sense. And they think, That Squeamishness and Vomiting, and other Symptoms arise, if sharp and viscid Particles, either kept there, or carried with the Blood by the Arteries into the Stomach, do not correspond in their Figures to the Pores of the Stomach, and so do violence to the Filaments of the Stomach, whereby the Animal Spirits are irritated and hindered in their Motion where they should go: whereupon the Motion is inverted, and the Stomach must as it were prove abortive. They will have the Heat of the Stomach to come, while the sulphureous volatil Particles, carried to the Gullet, pierce the membranaceous Parts, and raise a Heat.

§. 10.

Our Opinion is, That in these Diseases the Animal Spirits, being enraged, shake the little Fibres of the Stomach, and so the Stomach must of necessity be overturned, and all its Contents be thrown out of doors. In a Heart-burn therefore, according to the Opinion of all Physicians, there is a Solution of Continuity, while an impropportionate Object either resides in the Stomach it self, or comes from some other place into it, and distends, separates and parts in sunder the nervous Fibres of the Mouth of the Stomach; whereupon the Spirits that ly in the Fibres are moved disorderly; and so Pain is caused, which is either felt, pricking, rending, cutting, bruising, heavy, distending or burning, according as the peccant Matter; or the Ferment of the Stomach is more crude, fixt or sharp; whence

also Pain is believed to be in that Part, from which a vibration of the nervous Fibres results to the common Sensory. And if there be an acid *mucus*, or a very sowre Ferment, joyned with much viscid Matter gathered by Indigestion, the Heart-burn must of necessity thence ensue. Bile also is preternaturally poured out of the *duodenum* into the Stomach, which by reason of its sharp, lixivious, alcalizate Particles, wherewith it abounds, is oftentimes able to vellicate the Fibres, and cause this sad Pain; therefore the Heart-burn comes most upon an empty Stomach, when the *menstruum*, because it has no Object upon which it may act, acquires a greater Acrimony from the sharp, saline Particles of the Bile, called into the Stomach, and consequently pierces the sensible Fibres, which vibration is carried to the common Sensory. For Salts especially, whether sharp, acid or salish, lodged either in the Mass of Blood or in the *Serum* (as one may see in scorbutick People, who are often troubled with this Disease) and then getting head about the Mouth of the Stomach, and so by their rigid Points growing troublesome to the Membranes and nervous kind, are usually the causes of this Disease. If therefore in Fevers the balsamick and mild Particles be dispersed or inverted, and if on the contrary, lixivious, bilious and sharp ones be exalted and translated to the Mouth of the Stomach, the Heart-burn must of necessity follow. Also volatil, sharp and caustick Salts may easily produce this Disease, as we see in the Plague and other malignant Diseases, if they be gathered about the Mouth of the Stomach, and get

dominion there. Sharp Wind ascending to the upper Orifice of the Stomach, in form of a Vapor, while it violently insinuates it self into the nervous Fibres, and very much distends and vellicates them, may also cause this Disease. I observed, the Heart-burn was caused in a Woman by Worms voided at the Mouth.

Now we will declare in particular, what our Opinion is concerning Vomiting. Now if the enemy abovesaid burden the whole Stomach, and the *Pylorus* be wholly obstructed thereby, and a convulsive Contraction of it be made, violent Vomiting must of necessity follow. For the Stomach casts off whatever is troublesome, whether it offend in a saline, lixivious Acrimony or in Acidity. If therefore a vitious *mucus* or sharp Liquor stick in the folds of the Stomach, or if its Ferment be depraved (for when the Ferment is spoiled, the things that are taken, not being rightly contempered, grow sowre) and so the nervous Fibres, which make up the rough inner Coar, are by little and little saturated with some acid Tincture, and then by reason of the incongruity of the Object, are vellicated a little, till (the carnous Fibres, lying upon them, being drawn into consent) by means of the Animal Spirits they are contracted; and first a small Motion is made, whence comes a Squeamishness and Perturbation of the Stomach; and afterwards it grows stronger and stronger, whence comes Vomiting.

Here, by the way, I must mention some strange things, that have been voided by Vomiting. *Tobias Matthai*, a Physician of *Friburg in Misnia*, drank some Water, that

was

was drawn out of a Well, into which a Cat had been thrown, upon which he found great pain in his Stomach, and having taken a Vomit, he brought up a Cat. A Woman in my Neighbourhood vomited above an hundred Lizards and died presently. I knew another, who vomited Frogs. And *Aristotle* knew one that vomited a live Wheezele.

If Vomiting come by consent, from a perverse Motion of regurgitation out of the upper Guts into the Stomach, or from an Artery or Vein breaking in it, then uncorrupt Blood is brought up by Vomit without Coughing. For the Blood put into an *orgasmus*, gets out where it can. And any acid Crudity mixt with a kind of caustick *Alkali*, falling into the Guts, or the sanguiferous Vessels, uses to produce bloody Stools and Vomit. So in Women or Maids, by reason of the stagnation of the *Menses*, Blood sometimes is discharged into the Stomach, which through tarrying there is brought up clotted, and so other Evacuations suppressed are able to cause this Disease, of which we have discoursed sufficiently before, when we treated of Spitting of Blood. Women with Child do vomit also at the beginning, not only through consent of the Womb with the Stomach; but because the foul Matter cannot be purged by the Emunctory of the Womb, and not being able to wait the time of Birth, it returns, and takes upon it the nature of an Excrement, and because it has a sowreness in it, it is cast out by Vomit and other ways.

In Belching I think an acid, rough Paste is peccant, whether with the *Galenists* you will call it Phlegm,

or with *Paracelsus* a dreggy Tartar, it is all one to us, who will not differ about words, so we can but agree in things. For if this viscid Paste be fermented with a vitious Acidity, a lixivious *Alkali* also concurring, to wit, Bile (by whose provocation a flatulent Gas is belched up, as may appear by the intense Acidity of Meat taken in too great a quantity, when corrupt, or at length brought up) the Digestion of the Stomach is ill performed, and its perfection is worse finished in the *intestinum duodenum*, whereupon, whatever is taken and contained therein, swells with that fermentative Acidity, like Paste of Meal; and Wind is raised, by whose impetuosity straitness of the *præcordia*, Shortness of Breath, Restlessness, want of Sleep, swelling of the *hypochondria*, and Rumbling all over the *Abdomen*, are bred; as the very day that I writ this, I observed in a Man, upon drinking too much Water. Therefore a volatil acid crudity causes acid Belchings; and if there be but the least Portion of volatil Bile, that rises to the Stomach, the Belchings which are raised thereby, and distend the Stomach, either bite, or corrode, and so cause a heat of Stomach, and sometimes they smell of fried Eggs, sometimes of stinking Fish, and sometimes of bitter Bile it self. Belching shows a diminution of Heat, and a depravation of the Ferment in the Stomach: for the fermentation being weakened, all that is taken, degenerates into an acid, viscid Paste, that quite destroys the Appetite; and at length by the strength of Fermentation turns to Wind, which according to the Crudities in the Stomach is either nidorous, acid

or insipid; and this Wind does oftentimes with exquisite Pain exasperate the Sense of Vellication and Tension, which that viscid and slimy Matter, that oppressed the Stomach, had caused. This same Wind also being carried impetuously through the Cavity of the Guts, and hindred from passing, returns the same way, and meets with more, which rolling and rebounding cause a noise and rumbling in the Guts.

Squeamishness, hardness of Concoction, loss of Appetite, and other weaknesses of Stomach, proceed from want of an acid or saline, seminal Ferment. For the Ferment is often buried and suppressed by the crude Particles of the Food, whereupon the Appetite must needs fail and be destroyed.

§. II. Prognostick.

Let us now go to the Prognostick, which gains a Physician much honour. And first of all, as to Life and Death, we observed a mortal Heart-burn, attended with strange Symptoms, in a certain Counsellor of *Nassau*. Nor is it without danger, when accompanied with Swooning, coldness of the extreme Parts, and cold Sweats, according to *Hippocrates*, *sect. 4. aph. 65*. The Heart-burn in Fevers is bad; and in pestilential ones chiefly, in the Small-Pox, and malignant Dysenteries it is often fatal, especially if there be the Hiccough also. For this Disease ends either in Swooning or Convulsions in such as are near death. And they dy quickly, who have their Stomach full of Worms. On the contrary, these Signs following are of better event.

The Heart-burn out of a Fever is a Sign, That one should take a Vomit, as *Hippocrates* advises, *lib. 4. aph. 17*. Out of burning Fevers therefore the Heart-burn is not so dangerous, but it usually ceases, when the Bile is discharged by Vomit. But when an Inflammation and Eschar is made by a malignant Cause or caustick Bile, then the case is dangerous, and is not so soon over; therefore the Physician must be careful. Yet it often afflicts at intervals, and is in the nature of a chronical Disease, which is not so dangerous. Sometimes it degenerates into a quartan Ague, as the noble *Horstius* *l. 1. obs. 13*, has observed. According to *Hippocrates*, If a Blister or Swelling arise in the right Leg of one that is troubled with the Heart-burn, it is deadly. Vomiting may sometimes be a good, and sometimes a bad Sign. For if it come on a critical Day in a Fever, it is good, otherwise it is bad. Vomiting after the Iliack Passion is bad. The Hiccough after Vomiting is bad, and also redness of Eyes, according to *Hippocrates* *l. 7. aph. 3*. Vomiting of black Choler in the beginning of any Disease, is Mortal; and so *Hellmont* in opening of six and twenty Bodies, that died of this Disease, found nothing in the Stomach but a black Liquor, and the *Pylorus* shut; which is a Sign, That if any one vomit a blackish Liquor, or corrupt Blood, the case is bad. So a green and livid Vomit with a stink, is Mortal. Shivering, Heart-burn, Reaching, a *Vertigo*, and splitting do usually denote Vomiting to be at hand. They prejudice their Health, who force themselves to Vomit; for they make a sink of their Stomachs, and hasten old Age

Age upon themselves. They that Vomit every day, and after Meal, are apt to fall into an Hectick: for they are bilious and therefore macilent. Also every symptomatick Vomit in a malignant Fever or Plague, and in other Diseases is hurtful; on the contrary, every critical Vomit is good. *Hippocrates* says, That is the best Vomit, which has Bile and Phlegm mixt together. A Vomit coming upon a looseness cures the Disease, as *Hippocrates*, *sect. 7. aph. 15.* testifies.

As to the Prognostick in Vomiting of Blood, from what Cause or Part soever it proceed, it is always dangerous. Blood gushing out in great quantity endangers either sudden death, as I have observed, or coagulating on the Stomach it turns sowre, whence afterwards proceed Swoonings and Faintness, just as when it is coagulated in the Sinus of the Heart, precordial Suffocations follow. And there is less danger in that which proceeds from a suppression of the *Menses* (for according to *Hippocrates*, *l. 5. aph. 32.* vomiting of Blood in Women ceases, when the *Menses* come) than if it come from the Spleen, Liver, *pancreas*, &c. After Vomiting of Blood oftentimes a Dropsy follows, as I observed in two Citizens of *Hanover*, who died of a Dropsy. Therefore that is a most true saying of *Hippocrates*, *l. 4. aph. 25.* *All manner of Blood coming upwards is bad.* But if the Constitution be strong, then oftentimes it does little harm. So I knew three Citizens of *Hanover*, who fourteen or fifteen Years ago vomited at times above three Quarts of Blood, and notwithstanding they are alive and well.

Hippocrates makes mention of Belching, *l. 6. aph. 23.* *Those that belch sowre are not subject to a Pleurisy.* Also, *l. 6. aph. 1.* Sowre Belching coming upon long loosenesses, which were not there before, is a good Sign. In loathing of Meat or want of Stomach, Children are more hurt than Elder People. Also a bad Stomach is not so hurtful in the beginning of any Disease, as when the Disease is over, when an Appetite is the only way for restauration, otherwise the Body must shrink to nothing.

§. 12. Dietetick Cure.

NOW we will proceed to the Cure it self, and first of all to diet. The Air therefore must, as far as is possible, be pure and temperate, yet a little inclining to heat, because the Stomach cannot bear the ambient Cold, because of its many nervous Parts, as *Senne-tus* shows, *l. 3. prax. part. 1. sect. 2. c. 15.* Every Air must be avoided, which is tainted with sharp, poysonous, arsenical, antimonial and saline Particles; because an acid, saline Disposition, if it do not produce, yet it may encrease the Disease.

The Meat, if in any case, ought here especially to be of good Juice, and easy of Digestion and Fermentation, and should be seasoned with divers Spices, Majoran, Thyme, Anise, and Seeds of Paradise. All Meats, that are viscid, windy, sharp, over-salt and smoak-dried, must be forborn; such as are all Pulse, Radish, Onions, Garlick and Chestnuts, which according to *Swalbins* create the Stomach much trouble, and loosen the Mouth of it with innumerable Belchings, and also

Garden-fruits. Sweet things likewise, Milk and fat things are hurtful here, which often acquire Acidity, and are able to produce the foresaid Diseases, especially Heat of the Stomach. Many mistakes also may be committed in the quantity, order and manner of taking. For heaped in too great a quantity they over-whelm the Ferment of the Stomach. Variety of Meats also taken at one Meal is hurtful. The *Drink* may be good Wine, such as the Patient has been used to. But not too much of it: for as excessive gormandizing spoils the Stomach and its Ferment, so guzzling of Wine, and especially Brandy, soaks up the Acid in the Stomach, as one may try by mixing Spirit of Wine with Acids, which turn sweet. And this is the reason why we see stout drinkers eat but little, contenting themselves with a Crust of Bread for a whole day, and at last they fall into a Dropsy for their pains.

The Motion of the Body must be moderate and seasonable, and in the Fit a Man must rest. But all Motion presently after Meal is to be blamed, in as much as it dissipates the more volatill Particles of the Meat, hinders the subtilty of the Chyle, wastes the Spirits, stirs the Humors that are quiet, and deduces latent Wind into act. Riding in a Coach also, and Sailing in a Ship are bad, and often cause Vomiting, because they pervert the Animal Spirits, and make them flow disorderly to the Stomach, whereupon it is convulse; as all who first go to Sea are for several days vexed with Nauseousness and Vomiting. The sight also of filthy things may cause Vomit by imagination.

Here we advise *Sleep*, and to supply the want of it by Opiates.

Among the *Passions of the Mind* Joy should be chosen; for the more violent, such as Anger, Sadness, Grief, Care and Sollicitude should be utterly avoided, and allayed with pleasant Discourse or Musick. For care must be taken, that the balsamick and sweet Consistency of the Mass of Blood be not lost, and that it be not made sharp and lifeless; for so the Ferment in the Stomach is destroyed.

As to the *excreta* and *retenta*, the Patient must go once a day to stool: for if the Excrements of the Belly be preternaturally retained, they send putrid and sharp Vapors to the Stomach, and grow sower, whereupon also the Stomach may be inverted by consent of these Parts, and a thousand troubles created. The case is the same in Obstructions of the *Menses*, *Hæmorrhoids*, &c. and if these evacuations be not correspondent to Nature, they must be procured by Art.

§. 13. *Pharmaceutick Care.*

THe cure of the Heart-burn, Squeamishness, Vomiting, Belching, Rumbling in the Guts and loss of Appetite, in the Judgment of the Ancients, varies according to the variety of causes; which yet in general they thus manage. First of all they make the Humors obedient to Nature by preparing Medicines, as they call them. In a cold Cause they give Syrup of Mint, Wormwood, with Water of Sage, Majoran, Betony, Fenil, &c. In a hot one they give Syrup of Cichory

Cichory with Rhubarb, of Juice of Sorel, *acetositis citri*, with Water of Cichory, Sorel, Plantain, Bugloss, &c. Then they endeavour to carry off the Humor by Evacuators, which with them are Rhubarb, that both purges and binds, and strengthens the Stomach, Syrup of Roses solutive, of Cichory with Rhubarb. Sometimes they allow of gentle Vomitories, such as white Vitriol, and a Decoction of Radish, that is, if there be thick and glutinous Humors, because they incide also: for oftentimes Vomiting is cured by Vomiting. To this end they prescribe Suppositories and Clysters, for revulsion of the Humors. In the Heart-burn and violent Vomiting they fly to Opiates, namely *Venice Treacle*, *requies Nicolai*, *philonium Romanum*, and the like, giving about a Drachm. Then they strengthen the Part with corroborating things, such as Syrup of Quinces, sowre Pomegranates, Limons, Conserve of Roses, Marmelade of Quinces, *terra sigillata*, Bole Armenick, Pearl, Mastich, and a thousand other things which may be met with here and there among Practitioners. Externally they apply a Cataplasm of Leven kneaded with Vinegar and Juice of Mint; they also anoint the Region of the Stomach with Oyl of Quinces, Roses, Worm-wood or Mint; or they make a Cataplasm of the Pulp of Quinces and Worm-wood Leaves applied warm to the Stomach. They advise also a Plaster in this case made of Mastich, Frankincense, Mint Leaves, Oyl of Turpentine and Wax. In a violent Vomiting they sometimes clap a Cupping-glass to the Stomach. And they go almost the same way to work in Vomiting of Blood. These

are generals. But in the Heart-burn they write, That these things are specifically good, *aromaticum rosatum Mesues*, *diamargariton frigidum & calidum*, *latificans Galeni*, *diacinnamomum*, *rosata novella*, Treacle-Water, Conserve of Borrage, Bugloss, *Angelica*, Citron-Peel, &c. If the pain be greater after Meal, they conclude the Disease comes from viscid Phlegm; but if it be greater before Meal, that then Bile is the occasion, especially if there be a bitterness in the Mouth; and so, according to the diversity of this or that Humor, they give Purges. If the Appetite be excessive, then they blame acid Phlegm, for which any one may easily prescribe Medicines. And the lost Appetite is according to them easily recovered, if you do but observe a different cure according to the diversity of the Causes. If any one have eaten over-much, they order him Fasting or a Vomit, and especially purging sowre Syrups. If Bile offend, they advise *Hiera* and Rhubarb, and to eat sowre Sawces with their Meat. But if Phlegm abound, they order divers Phlegmagogues, Clysters to cleanse the Guts from all *mucus*, and divers Incisers, of which Books of Practitioners are full, so that we shall insist no longer on them.

§. 14.

THE Chymists in a Heart-burn, besides vomitive Medicines do advise mitigating and stupefying ones, namely, *laudanum Paracelsi*. Some of them make an Essence of rectified Spirit of Wine and Oyl of Juniper very effectual in this case; and they do not omit other distilled Oyls both inwardly and outwardly.

wardly. In Squeamishness and Vomiting they use the following things. Their Master *Paracelsus* in comment. ad aph. 2. Hipp. says, That Vomiting must often be cured by Vomiting, if the Patient's strength will bear it, for by it all the heterogeneous things are cast out, which were the cause of it. Extract of Hellebore is good; afterwards the Vomiting is stopt with Spirit of Wine, fragments of the precious Stones and Coral. Oyl of Vitriol given in Malmsey Wine or Conserve of Roses or Mint, stops Vomiting, and so do Oyl of Mastich, Tincture of Gold, *Laudanum opiatum*, and a Crust of Bread dipt in Wine and Water, and strewed with Spices. Powder of a Punice-Stone taken in Wine is said to be an excellent Medicine. They commend also the giving of *Gilla Theophrasti* at the beginning. Externally their Master commends Leven boyled with Juice of Mint and Vinegar to the consistency of a Plaster, applied hot to the Stomach. And in this case, after Medicines have been used in vain, they advise the setting a Cupping-glass with much Flame to the Mouth of the Stomach. In Belching and Rumbling of the Guts they advise discutient and attenuating things, such as Dill, Anise, Caraway, Fenil, *daucus*, *ammi*, *seseli*, Bay-berries, Galangal, and all Aromaticks, Chymical Oyl of Aniseed, Basil, Mint, *Laudanum*, &c. given in Wine. For procuring an Appetite, they prescribe beside Vomits, natural sowe things taken, such as Spaw-Waters, and artificial Medicines, extracted from Metals, Minerals and Vegetables; and they are their Salts. For since Salts are the chief thing in comminution and digestion of the Meat,

therefore a Stomach is best restored by Salts. Hence they write, That Salts of Worm-wood, Mint, *carduus benedictus*, Pearl, &c. are good. They also magnify saline Spirits, of Vitriol namely and *Venus*. *Paracelsus de grad.* says, That the Stomach is preserved by Galangal as by an external Stomach. And so they commend the destilled Oyls of Juniper, Aniseed, Worm-wood, Fenil, Mint, Cummin, Pepper, Cloves, &c. both inwardly, and applied outwardly with Oyl of Nutmeg, for excellent Medicines. He also prescribes *Opium*, Costmary and Centaury. *Quercetan* observes, That the following Powder is a great strengthner of the Stomach;

Take of *Arum* Root prepared one Ounce, common *Acorus*, Burnet prepared each half an Ounce, Crabs-Eyes calcined two Drachms, Cress-Seed one Drachm, Sugar the weight of them all. Mix them, give a Spoonful in the Morning.

He also extols *crocus Martis* and Tincture of Mummy.

§. 15.

H Elmont, in the Heart-burn, when the Mouth of the Stomach is charged with a viscid acid Phlegm, besides Vomits, commends Crabs-eyes, and other things to soak up the Acid. So also in Vomiting, for pacifying the enraged Stomach, he advises the drinking of cold Water, whereby he thinks the violence of the raging *archæus* is composed quickly, safely and pleasantly. But if the *Pylorus* be troubled by an occasional cause, that is, by a tenacious or acid Matter,

ter, then to soak up this viscid Acidity, he commends Crabs-eyes taken in some Vehicle. Nor do Vomits always obtain their certain effect, but sometimes the rage of the *Pylorus* is exasperated by them, as *Grembs* observed in a Barber, l. 2. c. 1. §. 3. *de stomach. defect.* But if vomiting of Blood happen in such as have an exorbitant Ferment of the Gall and Spleen, for it Practitioners apply Remedies to the Spleen, *Grembs* has found the following Plaster do good. Take of Flour of Barly, Acorns, Root of Comfrey each one Ounce and an half, Blood-stone two Drachms, red Saunders a Drachm and an half, Mastich one Drachm. With Plantain Water and red Wine, each what it sufficient, make a Plaster. Nor does the foresaid noble Author condemn Opiates, which wonderfully abate the fury both of the *Archæus* and *Pylorus*, and are approved Medicines in all these Diseases.

§. 16.

Ultis, as well in the Heart-burn, as in Belching and fowre Vomiting, that depend upon a corrupt Ferment, besides universals, advises divers absorbents, such as Crabs-eyes, Amber, Cinnamon, Ivory, &c. and he highly commends the virtues of the following Powder.

Take of *Arum* Root prepared six Drachms, Powder of *acorus*, Burnet each half an Ounce, Crabs-eyes three Drachms, Cinnamon, Salt of Worm-wood, Man's-skull prepared, Powder of Coral, Ivory, Vitriol of *Mars* each one Drachm. Mix them. With a

sufficient quantity of Sugar make a Powder. Or,

Take of Powder of Ivory, Crabs-eyes, Coral each two Drachms, red Sanders, Cinnamon each half a Drachm. Mix them. The Dose is half a Drachm.

In a sharp and hot Vomiting according to him, Medicines endued with a fowre vitriolick Salt are proper. Some Salt of Worm-wood may be given in Juice of Limon. Or,

Take of red Coral prepared two Drachms, Salt of Worm-wood one Drachm and an half, Juice of Limons three Ounces; let them stand in a large Glas. Add of Cinnamon-Water two Ounces. The Dose is a Spoonful or two.

Iron and Nitre Waters are good. Nor does he despise Opiates and other Narcoticks, taken inwardly and applied outwardly, as there is occasion. He also applies Plasters, Unguents, Oyls and stomachick Fomentations to a weak Stomach.

§. 17.

Silbius in the Heart-burn, Vomiting, Squeamishness and Belching, that have their original from viscid, sharp Humors, gives gentle Aromaticks in the Fit. Here is a Receipt;

Take of Water of Fenil, Mint each one Ounce, Cinnamon six Drachms, Syrup of Mint half an Ounce. Mix them. Let the Patient take a Spoonful or two between whiles.

And

And if the Vomiting be very violent, and extreme painful, he does not forbid, but rather advises, the adding of a Grain or two of *Laudanum opiatum* to this mixture.

He cures Vomiting of Blood, which comes from some broken or eroded Vessels of the Stomach, Guts, *pancreas*, or some other Part, by the well known, and most approved mixture in all Excretions of Blood, which follows;

Take of Water of Plantain two Ounces, Cinnamon six Drachms, distilled Vinegar half an Ounce, red Coral prepared half a Drachm, Dragon's-blood half a Scruple, *laudanum opiatum* three Grains, Syrup of Myrtles one Ounce. Mix them.

If there be also any fear of the coagulation of the Blood, he adds to the foresaid mixture Crabs-eyes or diaphoretick Antimony; or *bal-samus sulphuris anisatus*, if there be Pus.

And for discussing of Wind in Belching and Rumbling of the Guts, which lies in the Stomach or Guts, he approves of the following mixture or some such like.

Take of Water of Mint, Fenil each two Ounces, *aqua vitae Matthioli*, *spiritus carminativus Sylvii*, each half an Ounce, Spirit of Nitre twenty drops, distilled Oyl of Mace six drops, *laudanum opiatum* three Grains, Syrup of Mint one Ounce. Mix them.

For he prefers Spirit of Nitre before all other Carminatives, because it both incides Phlegm, corrects Bile, hinders the breeding of Wind, and disperses it when bred.

And all Aromatics and things endued with a volatil Salt do the same.

In heat of the Stomach he commends absorbents, Chalk, Coral, Crabs-eyes, Nutmeg, and several other things of the like nature.

The loathing of Meat, arising from the sick Man's prejudice will be cured by clearing his Mind of all prejudice, and by gradual using him to the loathed Mear. But if this loathing depend upon some fault in the Humors, the cure will ensue, if the peccant Humors be corrected or purged away. The vicious Humors may be corrected by the Medicines above-mentioned, and then we may purge them off either by Vomits or by things that purge downwards, especially if they be very tough.

§. 18.

NOW we and the Cartesians will encounter this Disease, and communicate those Medicines, which we have experienced to do good, for the sake of young Physicians, not of the old, and such as have arrived at the highest pitch of our Art, who need not our information, some of whom, out of prejudice or envy against younger Physicians, had rather remain in an error, than embrace the truth with these, and if (which is very rare) they do embrace it, they dissemble it.

If therefore the Heart-burn arise only from the impetuous violence of the Animal Spirits, we advise various antispasmodicks, and stomachick Specificks mixt with Opium, to which we usually add Powder of native Cinnabar, Amber, Man's

Man's skull, or such like. Thus *Wideli* immediately cured a Cooper who was troubled with the Heart-burn, and great Anxiety, only by taking a Dose of carminative Essence with a few drops of the anodine. He cured another by giving him a precipitating Powder made of Shells, Crabs-eyes, Bezoartick Powder, Oyl of Cloves and *Opium*. But if it proceed from a viscid and sharp Matter, that puts the Animal Spirits into disorder, we commend inciding things, yet appropriate ones, for absorbents are for the most part general, and too universal Alterers, and therefore are not so directly opposite to special Diseases, nor sufficient for their cure. These therefore, according to the variety of the specifick Acid, that offends, and the more or less glutinosity of the material cause, according also to the different nature of one or more, solid or fluid Parts, that are primarily or secondarily affected, together with the contrary sort and disposition of Humors, that are altered more or less, the complication also of divers Diseases, and concurrence of more or less troublesom Symptoms, do vary most frequently in these very things, as co-indicants; and one must cure as it were by particular means, and these must be dextrously joined with Absorbents, as the most experienced *Ettmuller*, of pious Memory, has observed in *disp. Precipitantium usu & abusu*. In the Heart-burn therefore we have found these things do good specifically, Crabs-eyes, Amber, burnt Harts-horn, Ivory prepared without fire, &c. If an over viscid and tenacious Matter vellicate the nervous Fibres, then spirituous and more inciding things are proper. Many

of our Patients have recovered by the following mixture;

Take of Water of Mint, Basil each one Ounce, *tinctura anodyna*, Tincture of Amber, Cinnamon each half a Drachm, Oyl of Mace two drops, Syrup of Mint half an Ounce. Mix them. Give it by spoonfuls.

To which mixture I have with very good success added a Grain or two of *Laudanum opiatum* or *theriaca celestis*, and for Women we use to mix something of Castor. Nor would we neglect the application of divers aromack Oyls, Plasters and Unguents to the Stomach outwardly. But if Wind causes oppression about the Heart, or Heart-burn, distension of the abdomen, or difficulty of Breathing, then carminative things are good.

In Squeamishness and a spasmodick Vomiting, if there be a Morion and gnawing at the Stomach, and painful Motions and Contractions of the nervous Fibres from a violent perturbation of the Animal Spirits, we fly to Opiates, and especially to *laudanum cydoniatum Hofmanni*, or our *laudanum aromaticum* in form of a Pill. And we may add either Treacle or *confectio Alkermes*, or a drop of Oyl of Cinnamon or Mint; for all these gently assuage the Membranous, and sensible fibrous Parts, to which we often join Cinnabarines, not omitting volatil oily Salts, and we add tartarizate Essence of *Opium* to *liquor cornu cervi succinatus*. *Pulvis stomachicus Poterii* will do well in this case, which follows;

Take

Take of *pulvis stomachicus Poterii* half a Drachm, Shells prepared, native Cinnabar each one Scruple, *crocus Martis saccharatus* half a Scruple, *Laudanum opiatum* one Grain. Mix them, and give it in Wine. It will open much.

Oyl of Nutmeg also will be very proper here, because Oyl tempers acidity, and by its spirituousity, and penetrance opens the Pores, especially if Salt of Wormwood be joined with it.

If too volatil Bile rise to the Mouth of the Stomach, and cause Vomiting, to stop this give a Scruple of Salt of Worm-wood with half an Ounce of Juice of Limons, and a little Salt of *carduus benedictus* alone. Bile also may be purged with Rhubarb, as there shall be occasion. You may make such a Potion.

Take of choice Rhubarb three Drachms, Mace half a Drachm, Salt of Tartar one Scruple. Infuse them for a Night in Plantain, Mint and Cichory Water. To two Ounces of the Colature add of Syrup of Cichory with Rhubarb half an Ounce, Cinnamon-Water one Drachm. Mix them.

In enormous scorbutick Vomiting, where the Animal Spirits are moved violently, you may add Opiates to Martial Medicines, and others impregnated with a sharp and penetrating volatil Salt, and so we shall do a great many good things at once. So the *sal volatile oleosum Sylvii*, or volatil, sulphureous things, as all bitter and aromack things, give great relief in any Vomiting. But what plenty

soever there is of other pharmaceutick Remedies, whereby Vomiting may be cured, I shall add no more, besides a few Externals, which have often good effect. There are divers Plasters of *Tacamahaca*, Mastich, *de crusta panis*, Treacle, or Leaven kneaded with Vinegar, and applied to the Stomach. The following Cataplasme seldom fails;

Take of Chocolate one Ounce and an half, *confectio Alkermes* three Drachms, Oyl of Nutmeg by expression two Drachms and an half, black Balsam of *Peru* two Drachms, Cinnamon one Drachm. With a sufficient quantity of Malmsey Wine make a Cataplasme.

Divers aromack Oyls may be applied to the Stomach, Sack may be applied by it self, and several other things, which Practitioners will shew you.

As for Vomiting of Blood, those things will be proper, which we advised for Spitting of Blood, especially if an acid Crudity mixt with a caustick *Alkali*, falling upon the Guts and sanguiferous Vessels (for preternatural acid Tasts and Smells do not only ly in the first ways, but they further penetrate the Body, as *Hilment* says paradox. 5. §. 9. Oftentimes there wanders about in us a certain mineral Salt dissolved, plainly excrementitious, I say a dissolved Tartar) cause bloody Stools and Vomiting, then Absorbents mixt with divers Strypticks will do good, such as *Tinctura styptica Zwelferi*, and our Tincture of Corals, and a thousand other things mentioned before, which I have no mind to repeat. Sprinkle some sympathetick Powder on all that is brought

brought up; and let Blood if there be occasion. See the rest in the Chapter, Of Spitting Blood.

In Belching and Rumbling of the Guts, for correcting the peccant Acid, to check the violence of the Wind, and to hinder the breeding of it, we advise carminatives, or things to discuss Wind: for instance, a Drachm of dried Orange-Peel, or the Water of it drawn with Malmsey Wine, a Decoction of it, Conserve of Chamomil Flowers, Oyl of Aniseed, Caraway, Orange-Peel, and *eleosacchara* made of them.

Take of Water of Fenil, Chamomil, *aqua carminativa* each one Ounce, *Spiritus carminativus Sylvi*, *theriaca coelestis* four Grains, Spirit of Nitre dulcified five drops, Syrup of Cinnamon one Ounce. Make a mixture, to be taken by Spoonfuls.

Or our stomachick Salt in form of a Powder is an excellent Medicine, which is made of the *caput mortuum* of Spirit of Sal Ammoniac with Salt of Tartar and Salt of Worm-wood, it causes an Appetite. Also our Tincture of *terra Japonica* made with Spirit of Wine is a great *arcantum* with us in all Diseases of the Stomach. Wine of Worm-wood, Mint, &c. is good to digest this acid Phlegm. Or.

Take of Conserve of Worm-wood, lesser Centaury, Rosemary, Mint, *confectio Alkermes* and Spirit of Salt. Mix them.

Elixir proprietatis Paracelsi and our *Elixir catholicum* or *polychrestum* will be proper. This acid viscidty will also be cured by giv-

ing things, that temper or concentrate an acid Spirit, forbearing Purgatives, till the acid Humors are tempered, and reduced to the nature of *Serum*, which then nothing hinders, but you may purge off by Hydragogues. We get out this acid Phlegm, that produces Wind, at the usual passage by carminative Clysters, namely Aromaticks, which are best able to check its violence and impetuosity. By this alone I cured a Woman, who had been troubled above a year with Wind running up and down her Belly, which put her to as much pain, as if she had had the Colick.

Take of Leaves of Mallow, Horehound, Mercury, Penny-royal each one handful and an half, Roots of white Lily, Marsh-mallow each one Ounce, Flowers of Chamomil, Elder each one Pugil and an half, Zedoary Root half an Ounce, Seeds of Fenugreek, Line each one Ounce, Caraway, Cummin each six Drachms. Make a Decoction in a sufficient quantity of Mallow-Water. To one Pound of the Colature add and dissolve in it, of *Philonium Romanum*, *electuarium de baccis lauri*, Cassia for Clysters each one Ounce, Oyl of Rue, Chamomil each two Ounces. Mix them. Make a Clyster.

In this case also the Stomach and Guts receive great and present relief from Opiates, whereupon they cease from their painful twistings. I have no mind to mention any more Carminatives either internal or external, only I shall give you caution, not to make the Matter worse, but to be careful what you do. Among chirurgical means a large Cup-

Cupping-glass set to the Navil will be proper.

In Heat of the Stomach or *soda*, chalk above all things settle the ebullition, or burnt Harts-horn and Nutmeg are good together in this Disease, and the benefit will be more present, if they be mixt with Conserve or Syrup of Oak-buds, just as they are opening into Leaves, in form of an Electuary. Or Tablets may be made of these and other things.

Take of prepared Chalk one Ounce, Crabs-eyes half an Ounce. Wash them three or four times in Borage-Water. Add of Bole-Armenick two Scruples and an half, red Coral prepared two Scruples, Pearl prepared one Scruple, Nutmeg half a Scruple, Sugar-Candy eight Ounces, with Rose-Water what is sufficient, make Tablets. The Dose half an Ounce, or for Children one Drachm.

In an extreme case Opiates, but in a little Dose, will be proper, as,

Take of Treacle one Scruple, *laudanum opiatum* one Grain, prepared Chalk two Scruples, white Amber half a Scruple. Make a Bolus, with warm Beer.

Spirit of Salt, *Elixir proprietatis* and other Absorbents may be here made use of, inasmuch as they correct, soak up and invert the vitious fermentative Acid in the Stomach and first ways, and thereby drive away and check the foreign Humor, and so stop the *soda*. Also Crabs-eyes and Bole-Armenick, which by a certain precipitation take away the Acrimony from sharp

and acid Liquors, are good in this case.

In a lost Appetite, or loathing of Meat, either a defect or excess of an Acid may be observed; from the Defect come Squeamishness, want of Appetite, Inconcoction and other weakneses of Stomach. Wherefore in this case temperate Acids must be given, among which this following excels;

Take of *Elixir proprietatis Paracelsi* one Drachm, Spirit of Salt dulcified, Sal Ammoniack each half a Scruple. The Dose fifteen Drops.

Here also Salts of Worm-wood, Cichory, *cardus benedictus*, lesser Centaury and our Stomachick Salt will do good.

If viscidty be also joyned with it, more bitter and aromattick things must be joyned with them, such as Aloeticks, Absinthiacks, Tincture of Worm-wood. Here is a receipt;

Take of *Elixir proprietatis* one Drachm, compound Essence of Worm-wood, Mint each half a Drachm. Mix them. The Dose is from ten to fifteen drops, Or,

Take of acid Spirit of Sal Ammoniack one Drachm, Essence of Mint twenty Drops, Tincture of Amber half a Drachm. Mix them.

If the Scurvy, as oftentimes it is, be joyned with loss of Appetite, then the following Electuary will do good;

Take

Take of Conserve of Scurvy-grass one Ounce, Orange-Peel, candied Elecampane, candied Ginger each half an Ounce, Elixir proprietatis one Drachm, Tincture of Cinnamon, Amber each half a Drachm. Mix them. Make a Conserve. Or,

Take of *aqua zedoaria anisata*, *aqua antiscorbutica* each one Ounce. Mix them.

And if the Acid be entangled with viscid and bilious Humors, then Vomits must be given: for when the vicious Matter is ejected, the absorpt Acid is set at liberty.

If you find that the Ferment is over-charged and suppressed with the crude Particles of the Aliment, and that so the Tone of the Stomach is hurt, Aromatics which have a sweet volatil Sulphur in them, and spirituous things, give great relief; but Vomits must be given first. To this purpose various stomachick Spirits may be given, especially *Mynsicht's*. The Dose is a Spoonful. For it is especially good against badness of Appetite, and corruption of Digestion. *Malmsey Wine* also often taken by it self has restored the Appetite. *Wedelius* his stomachick Tincture, which he calls his carminative Essence, is usually mixt with his anodyne Tincture in all these said cases.

Take of Root of Zedoary, Carline Thistle, Galangal each half an Ounce, Orange-Peel, Seeds of Anise Caraway, Flowers of Roman Chamomil each two Drachms, Cloves, Bay-berries, true *Acorus* each one Drachm and an half.

Mix them with Spirit of Citron Peel sufficiently sharpned with Spirit of Nitre. The Dose is twenty Drops.

But if beside Crudities, this Acid also offend in quantity and sharpness, then we use to prescribe Antacids, various Absorbents, and we add volatil alkalis and other Absorbents to the former things. Here also our Tincture of life will be proper, which follows;

Take of Aloes, Myrrh each one Drachm, Saffron half a Drachm, with the volatil Spirit of Sal Ammoniack draw a Tincture.

We cannot in Words express the effects we have seen from this Tincture in this case: the usual Dose is from ten to fifteen Drops. Mix Spirit of Sal Ammoniack with volatil Spirit of Salt of Tartar, and add a little Oyl of Mace, you will have an excellent Remedy to soak up that Acid. This following also will do good;

Take of Cream of Tartar half a Drachm, Vitriol of Mars, Crabs-eyes finely powdered, each one Scruple, *species diarrhodon Abbatris*, coagulated Spirit of Salt, Salt of Worm-wood, Cichory each five Grains. Mix them. Make a Powder. The Dose is as much as you can take upon a Knife's point. Or.

Take of Crabs-eyes prepared, Coral prepared, Ivory prepared without fire, *Crocus Martis aperitivus*, each half a Scruple. Mix them.

If you add some aromatick Oyls to these Powders, you will more concentre the Acid.

In loathing of Meat also Externals must not be neglected, and then divers Balsams, Plasters, Liniments and Cataplasms will be proper; and external aromatick oily things will be good in this case. Here is a Receipt;

Take of Oyl of Nutmeg by expression half an Ounce, Mastich, Mint each two Drachms, *calamus aromaticus* half a Drachm, Caraway, Cinnamon each ten Drops, Mace five Drops, Balsam of Peru two Drachms, white Wax what it sufficient. Mix them.

This very much strengthens a weak Stomach. Also Crato's stomach Oyl, *tacamahaca*, and *ceratum ex ladano Stokeri* will be proper. This is an excellent mixture;

Take of *spiritus theriacalis*, *stoma-*

chalis cum aqua vite albus each one Ounce. Mix them.

If you like a Plaster, beside the *scutum stomachale Hartmanni*, this following is in use with us;

Take of choice Mastich one Ounce and an half, *tacamahaca* one Ounce, resin of *Storax calamita* half an Ounce, Oyl of Nutmeg three Ounces, of Worm-wood destilled one Ounce, Balsam of Peru two Drachms, Wax what is sufficient. Make a Plaster.

And our balsamick mixture, made of Chocolate, Oyl of Nutmeg by expression, Balsam of Peru, Cinnamon and Malmsey-Wine, applied to a weak Stomach, is none of the worst Medicines. But since such Remedies may be met with every where, I shall not be prolix in them, but proceed to more necessary business.

CHAP. II.

Of the Hiccough.

§. 1.

NO one Part in the Body has greater sympathy with all the rest, than the Stomach. For it appears by anatomical demonstration, that the Diaphragm is not only near to the Stomach, but has also a common Coat, and the same Nerves inserted into the Mouth of the Stomach, so that of necessity, when the Diaphragm is affected, the Stomach for company is drawn into a troublesome sense. The Hiccough is commonly described to be, a convulsive Motion of the Diaphragm, returning by Fits, depending on the irritation and vellication of the nervous Fibres of the Mouth of the Stomach by a saline Acrimony.

§. 2. *Part affected.*

Most of the Ancients take the Part affected to be the Stomach, both in its upper and lower Part. For they will have it to be primarily affected, and the Diaphragm by consent. And they endeavour to prove by Signs, that these Parts are hurt, to wit, because some fault in the Meat and what is ta-

ken, precedes, and either Vomiting, Loathing, Pain in the Bowels, Heaviness in the Stomach, or sometimes Distension by Wind, accompany it. Others, treading in their steps (especially Sylvius l. 1. P. M. c. 23. §. 9.) give out, that the Diaphragm, or *septum transversum*, is the Part primarily affected, and they prove it, because it is a voluntary Motion; and Sylvius and others could raise an Hiccough at any time, whenever they pleased. But we take the Stomach, as to its Fibres and Nerves and Coat, common with the nervous Diaphragm, (and therefore enclined to interpolated Motion) and firmly knit to it, to be the Part primarily affected, for the reasons abovesaid, and especially because we find by daily experience, that this Disease is caused by abundance of Errors in Diet, and a load of ill Humors gathered in the Stomach. And to make the matter more clear, I will give you a case of a certain Man's Daughter, whom I have now under cure.

§. 3. *A Case.*

A Girl of a cholerick Constitution, thirteen years old, has now been afflicted a whole year with a troublesome Hiccough, which takes her four or five times a day, and holds her sometimes half an hour, sometimes an hour. And all the last Winter it afflicted her grievously, but in Summer she was almost free from it, so that it was a long while ere it returned, sometimes but once in three Months; but when Autumn came on, it returned with its former trouble and violence, and continues still. The Parents, being solicitous for their fair Daughter's health, implore our medical assistance. And (blessed be God) I successfully restored her by the Medicines hereafter mentioned.

§. 4. *Diagnostick.*

I thought it worth the while to produce the Signs, whereby we define the imminent or present Condition of the disease. There precedes a loathing of Meat, pain in the Stomach, heaviness, and sometimes Vomiting. As for the essential inherent Signs, they need not be anxiously inquired, since this depraved Motion perceptibly manifests it self at a distance to the Eye and Ear: For it does not only return frequently upon the Patient, but it is sometimes so violent, that all the Body is shaken with the Diaphragm, so that one would think the very Ribs would be broken by the violence of the Motion. In a desperate case Swooning and Convulsions do follow. If it come upon a Fever, as it often does,

then there is great thirst, weakness, a quick Pulse, want of Sleep, a trembling Motion in the under Jaw, *delirium*, impudence, sometimes a slimy Looseness, and many other Signs, which a prudent Physician may easily find out.

§. 5.

The *Phænomena* being premised and examined, it remains, That not only the proximate cause of this Disease be enquired into, but that the remote ones be brought upon the stage also, about which hitherto the Medical Schools have been of different Opinions; but I shall not examine all of them at present, let the principal suffice. And we will begin with the *Acuents*, who make the immediate and proximate cause of this, as they do of a Convulsion, to be inanition and repletion; and they add a third, namely, irritation, made by a sharp Matter, or by sharp and malignant Vapors. And they prove it by this, That in pestilential and burning Fevers many pernicious and sharp Vapors rise to the Mouth of the Stomach, yea and to the very Diaphragm, and then Men are vexed and afflicted with a grievous, and almost always mortal Hiccough. Bilious, sharp, salt and viscid Humors, and Wind also, according to them, may cause this Disease, and so Inflammations of the Liver and other Parts are apt to cause it. They do not deny, but a Hiccough may be caused by the corruption of Aliment turned sharp, and by sharp viscid Phlegm clinging to the Coats of the Stomach. They prove also, That this Disease may come upon inanition, because it often happens
after

after immoderate Evacuation by Stool, or Vomit, or Sweat, also after a long Flux of the *Menses*, *Lobbia*, &c. after a Dysentery, long Fasting, a great Wound, and things of the like nature.

§. 6.

NOW we will proceed to the *Paracelsian* Chymists, who accuse a vicious Tarrar, that is exorbitant in the Stomach, and does injury to the Stomach and Diaphragm.

§. 7.

HELMONT, that acute observer of Errors in the Ancients, will have the Stomach to be contracted in this Disease, and that indeed by a foreign, salvage Acid, by which hated Guest the Stomach is straitned; for the expulsion whereof the *Archens* does rise by its motive *Blas*, but its power, being too weak, fails. And so there are interpolated contractions in the Membranes of the Stomach, as often as the troublesome cause is occasionally moved, or recurs.

§. 8.

MAGNUS and SYLVIVS in this Disease blame the Animal Spirits, raging tumultuously, and inciting to such a spasmodick Motion. Yet *Sylvius* does not deny, but for the most part an Humor, or some sharp Wind, which by their Acrimony may irritate the Nerves and Fibres of the Stomach, and so of necessity draw the Diaphragm by consent into this convulsive Motion, may cause this Disease. So he has often observed it

caused by corrupt and sharp Food, and by Poysons and Purgations. For all things, which can so affect the upper Orifice of the Stomach, that the Diaphragm may be also affected, are able to produce this Disease; as likewise if the same, being contained in the *Thorax* or *Abdomen*, immediately bite the Diaphragm, or being carried to it by its Vessels, and sticking in its substance, corrode its sensible Parts, or any other way force it to that troublesome and convulsive, solitary contraction of it self, which ever and anon returns.

§. 9.

THE *Cartesians* hold, That the Hiccough has its rise from disproportionate and rough Particles, which vellicate the Diaphragm, and put it into such disorderly Motions. For the Fibres of the Nerves of the sixth Conjugation, implanted in the Stomach and Diaphragm, are here so vellicated, that they by their Motion carried to the Brain do now and then open such Pores in the Brain, by which the Animal Spirits flow violently into the Mouth of the Stomach, that they again contract the Fibres designed for expulsion upwards, so that the Patients at certain times expel the contained Air out of the *oesophagus* with such violence, that one may perceive it make a singultive noise. And when this sharp Humor is discussed by singultive Motion, the Hiccough ceases; and when it is again brought to the *oesophagus*, the Hiccough returns.

§. IO.

WE think, that the Stomach, by a peculiar artifice, elaborates a certain volatil Salt, and communicates it as necessary and useful to all Parts, and the whole Body: But if this degenerate into acid and rough filth, and that stick fast to the upper Orifice of the Stomach, that then by consent of connexion the Diaphragm is irritated, and convulsively contracted, and that by this convulsive Contraction, a noise is made, and so a Hiccough is caused. And we think, That such a volatil Salt may be charged, if filth brought from other Parts infringe it, as we see in malignant Fevers, Dysenteries, &c. such Filth is sent to this unhappy place, as causes an Hiccough. The Animal Spirits also may here contribute much, when by an amicable motion of irradiation, they ventilate fluids. I am fully perswaded, that an acid and sharp Salt is a cause, when it predominates about the Coat of the Stomach, which is common with the Diaphragm. As is apparent in our case: for the Hiccough troubled the Girl all Winter, because the Acid was encreased by the cold; on the contrary in Summer it gave respite. But when the Autumnal Cold returned, that kept the acid sharp Matter in the Body, the Hiccough returned frequently and violently upon her. Nor will we except Wind condensed about this place, and as it were imprisoned, which by its Acrimony irritates these Fibres, and excites them to this convulsive Motion.

§. II.

AS to the Prognostick, the Disease, because a most noble Part is affected, is most grievous, and oftentimes incurable; and it is so much the worse, if it come upon an inflamed Liver, or after Vomiting, the Iliack Passion, over-Purging or excessive Bleeding; or if it be accompanied with a malignant Fever or a Dysentery. For *Hippocrates in Coacis* says, *If one have the Hiccough in a violent Fever, he is sick of a very bad Disease*: The Hiccough also coming upon Swooning, or a distention of the Nerves, or a *delirium*, is accounted Mortal. If it accompany Inflammations of the Liver, Womb, Brain, or a great Wound, there is danger, but especially if a *delirium* or Convulsions follow: for then death is in the pot. But if it come at the time of the *Crisis*, and the rest of the Signs be good, we need not despair. For I have seen several in such a Condition escape. Wherefore what *Vallesius* says, is not to be regarded; namely, That he never saw one, who was wasted with a burning Fever, or sick of a malignant one, taken with an Hiccough and recover. In hysteric cases an Hiccough need not be feared; for oftentimes it goes off without any danger.

§. 12. Dietetick cure.

NOW we will add the course of Diet, which here is of great moment. The Air for the vital Faculty must neither be too hot nor too cold. Not excessive hot, lest the Acrimony be encreased thereby; nor cold, lest it encrease the

the Acid ; as you may observe in the foregoing case. Let it therefore be pure and temperate, not tainted with strange, fetid Atoms ; but if it be, it must be corrected by Fumes of Mastich, Frankincense, Amber, *styrax calamita*, Lignalloes, &c.

The natural Faculty requires Meat easie of digestion, without any Acrimony, Saltness and too much Acidity. Therefore Oat-meal and Barly-grewel, the Broth and Flesh of Chickens, Capons, Hens, but they must not be very fat, and potched and reer Eggs are approved of. But cold, sharp, salt things are hurtful, such as Flesh powdered and smoak dried, and Fish also, all horary Fruits, and all windy things which can fill the Stomach with Crudities. For from these and such like bad Meats are gathered putrid, salt, bilious, sharp, acid and viscid peccant Humors. The *Drink* may be Beer well defecated, not stale and sowre, with a Toast in it. Wine also is proper, corrected with various stomachicks, and altered with the cordial Tincture, or with Tincture of Daisy, Violets, or Harts-horn.

The Animal Faculty requires moderate *Motion*, lest the Disease be prolonged, and that one ly quiet in a warm Bed ; for too much Motion promotes an exagitation of the heterogeneous Particles, and thereby drives an Acid lying in the Blood, or any where else, to the Part affected ; and so the Disease may easily be produced. One must do all he can, to sleep : for want of it disturbs the Spirits and Humors.

The *Passions of the Mind* must keep within bounds. When Men are disturbed with anger, or struck

with grief, the Disease grows worse. For it is known to every one, how anger draws the Nerves, disturbs the Humors, and stirs up the rage of the Bile. So grief likewise may do harm, as it puts the Spirits to flight, and so may give occasion to this Disease.

As to the *excreta* and *retenta*, they must be conformable to the Laws of Nature, either by Art or Nature.

§. 13. Pharmaceutick Cure.

IT is now requisite, That we briefly add the Pharmaceutick and Chirurgick Cure. And first of all the old *Galenists* endeavor to make the peccant Matter (that is, if the Disease come from repletion) whether it be cold or hot, obedient to Nature by Preparers. If the Hiccough come from a viscid and pituitous Humor, then they use *syrupus de duabus radicibus, de stœchade*, Oxymel of Squills, a Decoction of *Asarum* root, Galangal, Elecampane, Horehound, Cummin Seed, &c. But if it come from a hot sharp Matter, then they prescribe Syrup of Roses, Vinegar, of Juice of Endive, Barly-water and other temperate Coolers. Then they endeavor to evacuate all peccant Humors from the Body by some convenient Purge. They give a Vomit with Warm-water, adding a little Syrup of Endive or simple *Oxymel*, or they give half a Drachm of *Asarum* root, or they purge downwards with *diaphenicum, hiera picra*, aromack Stomach-Pills ; and they add a little Castor in a cold Cause, and in a hot one they commend Rhubarb, Manna and Cassia. Then they hinder

der the flux of Humors to the Stomach by Avertents; such as Ligatures, hard Rubbings, Cupping-glasses with much flame set to the Back, Shoulders, Navil, and afterwards to the Pit of the Stomach, especially if Wind be in fault. Cold Water may be thrown in the Patient's face, to fright him, which often makes a Man hold his Breath, and so by consequent the Hiccough is observed to go away. He may rub his Ear with his little Finger. The extreme Parts of the Body may be washed in a hot Bath. *Myrepsus* commends *antidotus è croco Esdræ*. If the Hiccough proceed from inanition or acrimony, they give divers fat Broths, Barly-water, Milk of Goats, Asses, Cows, and such like moistning Food; Cock-broth, Oyl of sweet Almonds, Mucilage of Seed of Fleawort, and other things, which according to them are good to correct Acrimony. They do not despise Syrup of Violets, white Poppy, Water-Lily, and *philonium Romanum*. A Bath also of fresh Water is good. Among externals they apply divers Plasters both to the Stomach and Liver. To the Liver they apply *emplastrum santalinum*, to the Stomach *emplastrum de crusta panis*, and *tacamahaca*, and they advise the applying other hot and temperate Oyls, Violet, Mastich, &c. to the Stomach and *Spina dorsi*; but you may your self gather more out of Authors.

§. 14.

NOW we will search the Chymical Boxes. The Chymists in this Disease highly commend volatil Acids, those excellent Medicines, which were not formerly

known. These in the mean time will be proper, *mixtura simplex*, *tinctura bezoardica Michaelis*, Spirit of Salt about four Drops given in *aqua vita*, or Tincture of Coral, or Gold, or Precipitants, Harts-horn, Crabs-eyes, and many other such like Medicines, which we shall hereafter mention.

§. 15.

HELMONT commends divers spirituous and volatil things, as good to rouse the lazy *Archæus*: for he will have this Disease to be cured by *Arcana*, and he highly commends his *arcanum sedativum*. His Scholar *Grembs* commends Iron-Waters.

§. 16.

ULLIUS does no where expressly treat of this Disease; yet since he takes it for a convulsive Motion, all things that in his Opinion are good for convulsive Motions, will also be good here.

§. 17.

SYLBIVS, whenever bad Food or Medicines or Poysons are contained in the Stomach, does first temper them, and then carry them off by antimonial Purges. For tempering, he prefers Narcoticks before all others, inasmuch as they do not only temper any sharp Humors, but moreover dull the Sense of the Stomach, and render the impetuous Animal Spirits slower of Motion. But in evacuating the Humor by Vomit, after he has used Narcoticks, he advises *sapa antimonii*, or *tartarum emeticum*, or

Anti-

Antimony so prepared, that it will only purge the peccant Matter by Stool, yet he will have these Catharticks given but in a small quantity, because these Antimonials, if they do remain in the Body, do no harm, as the vulgar think; but (which is more) they do good, by amending the noxious Humors in the Body, or by further preparing them for a following Purge, as he has tried a thousand times. If the Patient be not inclined to Vomit, nor nauseous, it is better to evacuate the peccant Humors downwards, by Phlegmagogues, Chologogues or Hydragogues, or by a mixture of them, according to the various mixture of the Humors. And when viscid and thin Humors are peccant, he magnifies the Pills of Gum, which I have communicated already. The Patient may take three or four of them when he goes to bed. And in this case the Apozem described, l. 1. cap. 2. §. 35. will do good.

But if Vomits and Purges be vomited up again as soon as they are taken, and the Patient be tired, an aromattick mixture will be proper, as well to dissipate the troublesome exhalations about the Stomach, as to stop the Hiccough. For instance;

Take of Mint-Water two Ounces, *aqua vita Matthioli* or *theriacalis simplex* half an Ounce, *confectio Alkermes* one Drachm, *laudanum opiatum* two Grains, Syrup of Mint one Ounce. Mix them. Let the Patient take a Spoonful or two of this Liquor, and compose himself to sleep.

And when the Hiccough is a Symptom of some other grievous

Disease, of a Fever, namely, or Inflammation, &c. it ceases of it self, when that is cured; yet it may do no harm in the mean time to mix Opiates with Diaphoreticks and acid volatil Alexipharmacks: for so you will kill two birds with one stone.

§. 18.

THe Cartesians for filing and turning those pointed and rough Particles, that vellicate the Diaphragm, commend all hard and ponderous things, such as Crabs-eyes, Coral, Filings of Steel, Gold, *Mercurius dulcis*, yea and Opiates. Nor do they neglect giving of Purges, as there shall be occasion.

§. 19.

Now it is our turn to propose our own Method of Cure. From whatsoever cause therefore an Hiccough comes, if it continue perniciously, we give a Vomit to evacuate the sharp, acid Humors, if the Patients strength will bear it, of *Oxyfacccharum emeticum Angeli Sala* (in whose Desks there still ly hid many sacred Medicines) or *tartarum emeticum Ludovici*, or seven and twenty Grains of the Powder of *asarum* root. But if Squeamishness and other Signs of Vomiting be wanting, we betake our selves to gentle Purges: for we would forbear violent Purges, especially if the Motion be plainly convulsive, by reason of the great tumult which they cause in the Spirits and Humors, because they rather encrease than diminish the Disease. Yet gentle Purges may be given in divers forms, for Instance, Rhubarb,

cor-

Corrected *Senna*, Raisins and Mechoacan, an Infusion whereof is said to have given *Ferdinand* present relief in a pertinacious Hiccough of twenty Days. The following Pills are good;

Take of *massa pilularum marocostinarum* one Scruple, *extractum theriacale* four Grains, Essence of Castor one drop. Mix them. Make Pills for two times. Roul them in prepared Harts-horn. They both correct and purge.
Or,

Take of *Scorzonera* root half an Ounce, yellow Rhubarb one Drachm and an half, Leaves of Oriental *Senna* two Drachms, Cummin-seeds, Cinnamon, Zedoary each one Scruple, Currans one Ounce, the four Cordial Flowers each two Pugils, Cream of Tartar two Drachms. Boil them in a sufficient quantity of Spring-Water, and make an Apozem for two times.

To such as are weak, we would recommend sweetning Clysters instead of Purgers. For instance;

Take of the carminative and emollient Decoction one Pound; add of *electuarium benedictum laxativum*, Oyl of Rue each one Ounce, Sal Ammoniack one Drachm, the Yelk of an Egg. Mix them. Make a Clyster.

Absorbents follow Purgatives, which are able alone in a manner to cure this Disease, by soaking up those sharp acid Humors that stick and cling to the Stomach and Fibre of the Diaphragm, and solicit them to an elastick Motion. But

here Appropiates or Specificks must be chosen: for the peccant Acid in an Hiccough differs from another acid, yea the variety of these Acids can scarce be determined, for all Practice in special depends upon this business, yea and experience also is required, because a special Antacid is required to sweeten a special Acid. Here is the difficulty, In the hypochondriack Disease there is one Acid, in the Heart-burn another, and in a *Gonorrhœa* another, every one of which therefore has its specifick Medicines. Therefore to soak up the Acid, that is specifically peccant in the Hiccough, *Joel* commends burnt Harts-horn given in red Wine, which is a Remedy often approved by us; it would be more excellent, if prepared Coral, and a drop or two of Oyl of Cinnamon, Cloves or Aniseeds were added. Here follows an excellent Powder;

Take of native Cinnabar or *Mercurius dulcis* one Scruple, red Coral, Harts-horn prepared without fire each fifteen Grains, prepared Pearl ten Grains, *theriaca coelestis Hanovinsis* twelve Grains, Oyl of Castor, Cloves each two drops. Mix them. Make a subtil Powder. The Dose one Scruple.

This Powder never failed us given in Cinnamon and Quince or Mint-Water. For it tempers all acid and sharp things, and asswages all membranous and sensible fibrous Parts, when corroded or vellicated by sharp Juices. The virtue of Opiates can never be sufficiently commended; for they not only procure Sleep and ease Pain, but

but they also correct an Acid, and make all things quiet, which if they be joyned with appropriate Precipitaters, the business will succeed the better, as *Wedelius* has observed in *opiolog. l. 2. f. 2. c. 4. p. m. 166.* who mixt them with Castor in a Liquid or solid form, and gave them with great success in any Hiccough, but especially in a convulsive one, and never failed of his end. So we not long since found the effect of Opiates in a Hiccough joyned with an Epilepsy; for they check the violence of the Spirits, and make them slower, which their well known effects, somnolence and indolence, do testify. For the Animal Spirits in the œconomy of the Body are not only the prime Authors of all local Motion, but of life also. For they are the highest Wheel, which turns all the other Wheels in the Body (like an artificial Clock-work) as the Lord *Verulam* does ingeniously discourse. As long therefore as that elastick violence of the Spirits lasts upon the Diaphragm, as we said before in §. *Of the Cause*, so long the Hiccough will not cease: But when the motive violence of those Spirits is a little stopd, and their radious Influx a little hindered, the Tone of the Fibres will cease, the easy reception of Sensibles will at the same time abate, and the motive straining of the Fibres of the Diaphragm will languish, and so all will grow sedate. And all this you may obtain by *Opium*, for it is a stout conqueror of the Spirits. Here are Receipts;

Take of extract of Castor, Zedoary each four Grains, *laudanum opiatum* two Grains and an half

Mix them. Make six Pills for two Doses. Or,

Take of Essence of Castor, Treacle each one Scruple, *tinctura anodyna Widellii*, or *cum spir. tartarifat.* half a Drachm. Mix them. Give twenty Drops or more for a Dose.

If a malignant Fever, Dysentery, or Small-Pox, &c. accompany the Hiccough, then Alexipharmacks must be mixt with Antispasmodicks and Opiates. For example;

Take of *pulvis Pannonicus ruber*, *bezoarticus Sennerti* each one Scruple, *specificum cephalicum* half a Scruple, Bezoar-stone, *theriaca cœlestis* each four Grains. Mix them. Make a Powder. Take as much as will ly on a Knife's-point in the following or some such like Vehicle;

Take of Water of Borrage, Bugloss, *aqua antispasmodica nostra* each one Ounce, Cinnamon one Ounce and an half, Syrup of Betony six Drachms. Mix them.

In a windy Hiccough *Hoffman in clavi Schroderiana* commends this following;

Take of Water of Dill, Cummin each half an Ounce, Oyl of Aniseed, Caraway, Cummin each three Drops. Mix them. The Dose is a Spoonful or two Morning and Evening.

In this case let the Patient chew Aniseeds continually. Here also all volatil oily Salts will be proper. This is the internal Cure.

External

External topical Remedies also deserve great praise in this Disease. I can affirm it upon experience. The best of them are a Cataplasm of Treacle, of Leven, and that of *Mynsicht* against the Hiccough applied hot to the Stomach between two linen Cloths. *Timeus à Guldenklee* promises the same from a Cataplasm of Oak ashes wet with Malmsey Wine. Or this following one of *Michael*;

Take sowre Leven two Ounces and an half, Powder of Mint leaves one Ounce, Zedoary half an Ounce, Seeds of Cummin, Caraway, Anise each two Drachms, Vinegar of Roses what is sufficient. Make a Cataplasm.

Or the following Plaster, approved by my experience;

Take of *Emplastrum de baccis lauri*, *stomachalis Cratonis* each one Ounce, Chocolate of *Sevil* half an Ounce, Oyl of Castor half a Scruple. Mix them. Make a Plaster.

Or our balsamick mixture, especially in Children, will not fail you. Or a Crust of Bread besprinkled with *aqua Anhaltina*, which has often done good, applied hot to the Stomach. Or Swallows cut open alive and applied hot to the Stomach, stop the Hiccough, as it is a convulsive Motion of the Diaphragm. *Rodericus à Fonseca tom. 2. consult. 27.* magnifies a Fomentation of sharp Vinegar, Castor and Mustard applied hot with a Sponge to the Stomach. These may serve for Bags;

Take of Flowers of Chamomil, Calamint, Rosemary each three Pugils, Tops of Mint, Sea-wormwood, Horehound each one handful, Citron Peel, Mace, Galangal each two Drachms, Seeds of Cummin, Caraway, Anise each half an Ounce, Castor half a Drachm. After they are cut and grossly bruised, quilt them in a Bag, and besprinkle them with *oleum carminativum Mynsichti*, or Oyl of Mint, what is sufficient.

For Poor People;

Take Leaves of Worm-wood, Mint, Juniper-berries each one handful, Mace, Aniseed, Caraway, Nutmeg each one Drachm. Besprinkle them with Wine and Vinegar, and apply them to the Stomach.

These things we had from the pharmaceutick Fountain; now follows the chirurgical, whence we may take several generous Remedies in this Disease. Thus by the advice of *Fonseca*, *Zacutus Lusitanus* and several experienced Authors, we may apply a Cupping-Glass with much flame to the Stomach. And we do not condemn Ligatures and Frictions of the extreme Parts, for revulsion sake. And according to *Claudius* his counsel, we swath the Body, to keep the Diaphragm from contracting it self with that violence. See *Willis de hysterica passione*; so likewise a gentle Hiccough may be stoppt by holding ones Breath, which, with *Sylvius*, we make no scruple to advise. And if a Man be plethorick, and there be an Inflammation

on of any Part, we would advise Bleeding, for to cool the Heat of the Blood, and to retard the Animal Spirits. In a gentle Hiccough, not only holding ones Breath, but Sneezing often does good. And I

know a Man, who cures the Hiccough by whispering, I know not what, in the Patient's ear. The reason of this perhaps is, because the thoughts of the hiccoughing Person are diverted another way.

CHAP.

C H A P. III.

Of a Loosness, called Diarrhœa, Lienteria and Cæliaca.

§. I.

Good Ingestion, Digestion and Egestion may well be termed perfect Health. For it is well known, how necessary it is for a Man to refresh his Body every day with Meat and Drink; and it is as necessary to discharge the Excrements every day, that are gathered from them: And hence it is, That provident Nature has contrived and made several Canals and Sinks, to carry off the Excrements of the Body. If any one or more of them be hurt, or if these Emunctories be too much solicited, there arise divers fluxes of the Belly, of which we shall give you first of all three kinds: A *diarrhœa*, from *πεω* to run or flow, and it is a frequent and plentiful going to stool, whereby various and liquid Excrements are voided. A *Lienteria*, which is as much as to say, a smoothness of the Guts, which is described to be, a Loosness, in which Meat is voided whole, and looks as when the Patient swallowed it. And the *Cæliaca Passio*, is, a voiding of Food, that is fermented indeed, but it is only confusedly. Now because these three Diseases differ but

very little among themselves, I have a mind to treat of them all together, lest we should tire our Reader with repetitions.

Now we will describe a *Diarrhœa* our own way; and we take it to be a voiding of divers, but liquid Humors, arising from a spasmodick irritation of the Fibres of the Guts, and a coarctation of the small Glands lately found in the Guts (out of whose *Plexus's*, as out of a Spring, the Humors arise.) And so we think a *Lientery* and *Cellack Passion* are Diseases of the Stomach, and more particularly, of the orbicular Fibres, which are found in its second Coat.

§. 2. *Part affected.*

Authors do make the Subject of these Diseases very dubious, some will have it to be the Guts only, others the Stomach, and some, both the Stomach and Guts, so that you cannot well tell with which Party to side. We take the Subject to be the Fibres of the Stomach, and the Glandules of the Guts, which are usually hurt, irritated and spasmodically contracted. For the contraction of these
motive

motive Fibres is attended with a manifold Motion of the contained Fluids; that is, whenever any Part is at the sense of something troublesome and noxious, affected with a disordered and impetuous vibration of the sensible Fibres, the violence of the Spirits is moved at it, by which the hurt of the Fibres is increased, and their spasmodick Motion is more or less performed. And when these Fibres and Glands are contracted, the lymphatick, chyliiferous Vessels, and all the Passages and Emunctories of the Part are straitned more or less, and thereupon either the Passage of the Contents being stoppt a while, there is a stagnation about the Part so affected, whence comes a Tumor: Or there is a very plentiful Effusion of these Contents by ways usual or unusual, yet open or not difficult to be opened, according to circumstances, which causes these disturbances.

§. 3. *Diagnostick.*

THESE three Diseases have no great need of enumeration of many Signs, since they are such as manifest themselves to the by-standers as well as the Physician: but since they differ among themselves, we shall add a few things for distinction sake. In general there are Belchings, Wind, Restlessness, puffing up of the Belly, Rumbling in the *Hypochondria*, Pain in the Loins, loathing of Meat, Thirst, Risings in the Stomach, Gripes, and at last comes frequent going to Stool. In a *Diarrhœa* the Excrements are bilious, *i. e.* yellow; or black, that is, acid, or pituitous, or serous, or stercorous and fetid, or ash-coloured, or white like Chyle,

or chalky (as I observed in a Shoemaker not long since) or fat and like tallow (as is usual in consumptive Persons) or gravelly (as I observed in an old Man, who together with Gravel voided a Stone of an Ounce weight.) A *Lienteria* is known by the like constant Excretion, differing nothing from the consistency, colour and smell of what is taken, so that the Meat looks just as when it was eaten. Yet it must not presently be taken for a Lientery, after a Man has eaten Lentrils, or any hard Meats, that are difficult of Concoction, if he void them whole by Stool, but when there are the Signs above-said, and sharp and bilious Stools do also appear. In a *Cœliaca* the Excrements usually come white like Chyle, Nutrition is diminished, and there are Belchings and Distensions of the Belly. Now we will proceed to the Causes.

§. 4. *Cause.*

THE old Galenists reckoned the immediate Cause of these Diseases, to be the expulsive Faculty stimulated and irritated by the four Humors; nor do they excuse Wind: for they prove, That Vapors and Wind offend through weakness of Heat, by the rumbling and fluctuation of the Guts. So *Hippocrates*, *l. 2. de Diata*, cap. 19. testifies, That corrupt Chyle heats and disturbs the Body; wherefore *Paulus Agineta* calls a *Diarrhœa* a corruption of the Food. Sometimes in loosenesses Men void bilious Matter, sometimes melancholick, sometimes phlegmatick, sometimes crude and sometimes concocted: And therefore they blame the intemperature of the Stomach.

§. 5.

THE *Chymists*, according to their Principles, accuse a dissolved Salt, which by its Acrimony stimulates and irritates the Stomach and Guts, and their Fibres and Glands, to which it sticks, from whence they do not question but Loosnesses have their original.

§. 6.

HELMONT will have the rage of the *Pylorus* to be the only cause of a Looseness; because the *Pylorus* is the ruler of the whole œconomy of the Stomach, unto the *intestinum rectum*. In general he blames the fault of the Digestion; in particular he accuses a per-
vicacious Acidity of the Ferment, the dissent of the *Pylorus* and Ferment of the Gall, and the exorbitance hereof, an acid corrupt Chyle, and any mucous stuff that sticks to the Guts. From whence he derives various Fluxes of the Belly.

§. 7.

MILLIS affirms, That any sharp, serous and bilious Humors, when they suffer a *fluor* in the Mass of Blood, are carried towards the Stomach and Guts by the Celiac Vessels, and while they abound there, may cause various and horrible Fluxes of the Belly.

§. 8.

ACCORDING to the *Sylvian hypothesis*, a *Diarrhæa* usually arises from a vitious Effervescence of

the Juices in the Guts, by reason of a sharp and saline Bile, that stimulates the Guts. In a Celiac Flux they think the Motion of the Chyle is preternaturally vitiated, in which Chyle together with the Excrements is voided by Stool: wherefore he would have it called a chylous Looseness. And he ascribes the cause of this Disease to an Obstruction of the lacteal Veins, and of the rough crusty Coat: wherefore in the Cure, he advises the opening of these Veins.

§. 9.

THE *Cartesians* think, that great store of Humors is precipitated out of the Blood, by the Vessels, that open into the Guts, whereupon the Fibres of the Intestines are vellicated and irritated, so that the Animal Spirits flow in greater plenty, and so encrease the peristaltick Motion, and cause a Convulsion. And they think, the cause of this separation and precipitation to be the Effervescence of the Blood, augmented by the sharp, bilious Particles, that were preexistent in the Blood and Serum, and irritate the Fibres by their sharpness. But in a *Cœliaca* and a *Lienteria* they blame a bad Ferment of the Stomach; because the Meat is not sufficiently dissolved by it.

§. 10.

AS to our own Opinion. It is well known to every one, That the Stomach and Guts are strangely griped in these Loosnesses. In a *Diarrhæa* the enemy goes armed with various Darts, and when they touch the Fibres, they must of necessity be contracted, according

ing to the nature a motive Fibre; whereupon also the Emunctories of a glandulous Texture, that open upon the Guts, are straitned and compressed, by which constriction the Liquors are squeezed, as out of a Sponge, and so are voided by Stool. But in this business of coarctation the Fibres of the intestinal Glands, and of other ways and Passages, are only as instruments, the Animal Spirits acting violently, and performing that office, as the principal Agent; whereupon, when violence is offered to these Places and Emunctories, then such a coarctation and straitning follows: wherefore this Disease may well be called a convulsive Disease of the Guts. And this private enemy is any bad, sharp, acid Humor, gathered in the first Region of the Body, poured either out of the Arteries or lymphatick Vessels, either critically, or for the most part symptomatically, so affecting the Fibres of the Guts by its Acrimony, that by the constriction of the nervous Fibres, through the help of the Animal Spirits, the Humors are forced to pass downwards.

A Looseness therefore may arise either from too great serosity or lixivial Acrimony of the Blood; wherefore scorbutick People are often subject to it; or from the stoppage of the transcolation of the Chyle through the spongy and glandulous Crust into the lacteal Veins, as in the Coeliack Passion, when something of Chyle is voided together with the Excrements, or a serous Matter is thrown off the serous pancreatick Juice, which ought to be ascribed to the serous Recrements of the Blood. For it often happens, That the Serum in

the Mass of Blood, which should be dissipated in form of a Vapor, when the Pores and Passages of the Skin are closed, does reflagrate; whereby the Serum encreases, and often causes a Looseness. Wherefore in my Practice I commend Sweating for a Looseness. It often happens also, That Bile pricks the Fibres of the Guts, and the corrosive *Alkali* of the Gall is so fretting, That it corrodes the very Guts, and causes a Gangrene, and then it spoils the Animal Spirits residing in the Fibres of the Guts; and then death follows. So the Guts are solicited by a vitious and corrosive Acid, whereby divers Fluxes of the Belly are caused, in which case the Excrements appear black; and this Acid by corrugating the sensible Fibres often causes horrible Gripes. These Loosenesses vary according to the various nature of the Acid. Nor do we deny, but in a Lientery and Coeliack Passion the Ferment of the Stomach may be vitiated, and rendered unable to dissolve the Food; wherefore of necessity it must be voided crude; and this Disease may easily arise from a weak or abolished influx of Animal Spirits.

§. II. Prognostick.

THe divine Hippocrates in the *proœmium* of his Prognosticks inculcates, That the Prognostick is of necessity to be known by a Physician: wherefore we will see what we may rely on in these Diseases before us. They are troubled with long Loosenesses, according to Hippocrates, *aph. 30. sect. 3.* who have just passed the Years of their Youth; and they that are near old Age:

A *diarrhœa* is the easiest sort of Looseness to cure; but it is apt to turn to the other. *Helmont* says, a *diarrhœa* is mortal, which comes through the fault of the natural œconomy, that is, from the activity of the Ferments being abolished; wherefore it is ever fatal to hectic People. But that which comes from the poisonous *Blas*, may be cured by the help, of a Purge. A symptomatical Looseness is worse than a critical. That is good which comes to a Woman with Child towards the latter end of her time, and facilitates her Child-bearing. Also that which follows the stoppage of the *lochia* and breeding of Teeth; that which comes in the Spring-time and in ferous Bodies. But that is bad, which follows a Pleurisy. In malignant Fevers a Looseness accompanied with other bad Signs is often Mortal, as among others I observed in the Illustrious Count *Joa-nel*, the Emperor's Commissary General, who lay sick at *Limburgh* eight days of a malignant Fever, and a bilious *diarrhœa* coming, the third day after he died, in whose Body, when I opened him to embalm him, I could find nothing to lay his death to, unless it were, that his Gall-bladder had not so much as one drop of Bile found in it. A *diarrhœa* of it self menaces no danger. For, according to *Celsus*, l. 4. c. 19. it is wholesome to be loose one day, if there be a Fever, and if it go off in seven days. Therefore it should not frighten a Physician, if such things be evacuated as should, and the Patient bear it well: when the Humors come by little and little, and without disturbance. A looseness also is good, when it follows an In-

flammation of the Eyes, according to *Hippocrates*, l. 6. aph. 17. or a Palpitation of the Heart, Stoppage of the *Lochia*, Dropsy or Deafness, 4. aph. 28. Excrements that are very white, frothy, stinking, fretting, crude, large in quantity, viscous, watry, purulent, like Meal or Chaff, eruginous, especially black, are bad; but they are good in splenetick People, and after taking of steel Medicines. If a Woman with Child have a Looseness, she is in danger of miscarriage, as *Hippocrates* says, 5. aph. 34. But this must be understood with other bad Signs, and especially the *Menses*. For I know a case, where the Physicians gave a fair Maid, who kept her being with Child from them, strong Purgatives, yet she found no harm by it, but was brought to bed of a lusty Girl, which she strangled, and was beheaded for the Fact. If a Looseness come from over-eating ones self, there is small danger, but it is dangerous, if it be caused by bad and poisonous Meats. Dropsical Persons, when they are taken with a violent Looseness, though sometimes they escape, yet they often dy. People recover of a *diarrhœa*, when their Excrements grow better, that is, when they thicken and grow nearer their natural State. But when the alteration is for the worse, and the Excrements turn green, ash-coloured, black, fat and stinking, with hiccoughing and other bad Signs, this is a bad change, and usually ends in death.

§. 12. *Dietetick Cure.*

THe Air must be temperate: for a moist and cold Air promotes a Looseness. If one sit on a cold Stone, or walk bare-foot on a cold and moist Floor, he is apt to fall into a Looseness. In Autumn and Winter Loosenesses are frequent, because transpiration by the Pores and Passages of the Skin is hindered. For in Summer-time these Passages are open, and the Body is continually in a Sweat with a perpetual transcolation of the Serum, and upon the Passage of this serous Vehicle by the Skin, little Urine is made, and the Belly is bound; but when all things are frozen with Winter's cold, and these Passages are stoppt, Urine is more plentiful, and the Belly is looser, which the famous Practitioner Gabelchoferus cent. 3. cur. 73. confirms, where he says, *They that are of a thick texture, and have a thick Skin and narrow Pores, go oftner to Stool, than they that have open Pores, by which Vapors and Moisture may be spent, the Excrements are dried, and the Body is co-sive.* Hence it may easily be gathered why Fluxes are often raging in the latter end of Summer and beginning of Autumn. Hence also Sudorificks are commended in Loosenesses, to make a diversion.

The Meat must be of a laudable Juice, and taken in a small quantity; not fluid; roast-meat, and boiled with Spices excel. All beastly chopping up of any Meat without chewing it, or mixing it with Spittle, is bad. All crude, acid Meats, and horary Fruits are in the same predicament, especially salt Cabbage. Therefore they take

but a bad course for their health, who take this Cabbage for a purging Medicine, when it rather does it because of its ill Digestion. In this case divers Mushromes are bad, which have sharp Particles in them; and Seneca does rightly call them a *pleasant Poyson*. Melons and Cucumbers are of the same rank, especially eaten raw, seasoned with Pepper, Salt, Oyl and Vinegar, and eaten with other Meats, upon eating of which I have observed abundance of *diarrhœas*, Lienteries, Bloody-fluxes and enormous Vomiting. So that a French Physician might well write on the front of a stately House which he had built, this French Distich in Letters of gold.

*Les concombres & les melons
M'ont fait bastir cette maison.*

And here all Pulse, which contains in it an occult Acid, is condemned; and also all Meat that is salted and smoak-dried, Swines-flesh, all fat and sweet things, which have a corrosive Acid in them, by which the Fibres of the Guts may easily be irritated, and so spasmodically affected. All Purgatives that are either poysonous, or given in too large a Dose are as bad, which often produce an over-purging and an incurable Looseness. For there are some, That have most tender Fibres in the Mouth of the Stomach, and (pardon the Expression) a paper Stomach, which, if it also abound with sharp Humors, is easily put into a Looseness. So I gave a Girl only two Ounces of Manna with half an Ounce of Cream of Tartar, and one would wonder what disturbance it gave her, and how it over-purged her. I also

knew one, extremely hypochondriack, who took only as many *Frankford Pills* as he expected Stools: for he had a moist *Serum* without any driness, sharpened with a saline *stimulus*. On the contrary, they that have dry Guts without *Serum*, and have strong and hard Fibres, are not easily moved, especially where the Acid is strong, by which the strength of the Purge is weakned. For the virtue of Purgatives depends upon a greater or less quantity of *Serum* in the Body, that is more or less acid, besides the disposition of the Stomach: Therefore a lax and moist Stomach and Guts are difficultly irritated: but they that are full of excrementitious, serous, sharp, saline Humors are easily wrought upon. Be wary therefore, and have a care of Poysons, which by their arsenical sharp Particles, mixt with a sweet viscosity, are not only able to disturb the Mass of Blood, but spasmodically to irritate the nervous Fibres of the Stomach and Guts, so that often, yea of necessity, a violent flux of the Belly must follow.

Let *Drink* in Loosenesses be moderate. Wine of Pomegranates or Quinces, or Malmsey, or Juniper mixt with other things is said to do good specifically. Large drinking does hurt. Poor People may drink Beer well boyled and wrought, in which a piece of Steel or Gold has been quenched. But a Decoction would do more good made of Harts-horn, *scorzonera* Root, Tormentil, dried Quinces, Hips and other moderate Astringents. On the contrary one must have a care of hot Wine and new, of which *Schola Salernitana* says well,

Impedit urinam mustum, solvit cito ventrem, &c.

Motion and *Rest* must be moderate; unseasonable exercise, such as Dancing, Riding, Running, too much playing at Ball, are able to cause this Tragedy. So likewise a Looseness must of necessity follow a life too sedentary, while it hinders transpiration, and fills the Body with many serous Humors that remain behind.

Sleep and *Watching* must not exceed mediocrity. But sleep must be procured, as much as may be, for it checks all Evacuations but Sweat.

The *excreta* and *retenta* must be correspondent to Nature. For the usual Evacuations, such as Urine, Sweat, (which uses to evacuate the *Serum* either sensibly or insensibly by the Pores of the Skin) Snor, Spit, the flux of the Hemorrhoids or *menfes*, suppressed or running too violently, may do great mischief.

The *Passions of the Mind* must be moderate. So in anger, by a violent commotion of Bile (for these dregs, that taint the Blood, are usually thrown off the Blood, into the *ductus felleus* and *pancreaticus*) I have often observed bilious diarrhœa's. So *Platerus* observed a Looseness upon Grief (inasmuch as the Humors are turned fowre in the Body.) *waleus* has observed Loosenesses follow frights and fear. Our Lives therefore must be regulated by the golden Mean.

§. 13. Pharmaceutick Cure.

NOW we will subjoyn the Pharmaceutick cure according to the Minds of the Ancient Galenists. They first of all corrected the Humors with Preparers, Syrup of Mint, Water of the same, Plantain, Zedoary, &c. Then they evacuate the corrected Humors. In a hot or bilious Constitution they give Goat's Milk, Rhubarb, Tamarinds, Syrup of Cichory with Rhubarb, &c. In a cold or melancholick Constitution they give gentle Melanagogues, in a phlegmatick Constitution Phlegmagogues. Then they fly to corroborants, as to their last refuge. To this Class they refer all Astringents, such as Tormentil, Bistort, Plantain, Purslain, Seeds of Dock, Myrtle, Quinces, Pomegranates, Medlars, Currans, Services, sowre Plums, Coral, Bole Armenick, *terra sigillata*, Dragon's-blood, precious Stones, burnt Ivory, Marmelade of Quinces. In a phlegmatick Looseness they commend Aromaticks, which incide and strengthen, such as Mint, *carduus benedictus*, Peels of Orange, Citron, Zedoary, Cinnamon, Nutmeg, Lignaloës, Amber, Mastich, Hare's-runnet. Of these they make a thousand Reciepts and Compounds. At last, when necessity forces them to it, they fly to Anodynes; among which they commend *Venice Treacle*, *Philonium Romanum*, *requies Nicolai*, *diascordium*, &c. Among chirurgical means they forbear Blood-letting; they allow of Cupping and Scarifying the Shoulders and Back, because thereby they evacuate, derive and make revulsion. *Avicenna*

says, *l. 3. fen. 16 tr. 1. cap. 1.* that a large Cupping-glass applied to the Belly does very much good in this case. So they do not contemn Vesicatories, Frictions and Ligatures. Of which see *Sennertus*, who may serve for all.

§. 14.

THE Chymists, for correcting these dissolved Salts, do commend several fixt Precipitants, and Infringents with astringtion, such as *crocus Martis astringens*, Vitriol of Mars, Tincture of Mars, Coral, Sulphur, Vitriol, styptick Liquor, *saccharum Saturni*, several Martial, and aluminous Medicines, and a thousand other things.

§. 15.

HELMONT in a *diarrhœa* that proceeded from the fury of the *Pylorus*, gave two hard Yolks of Eggs mixt with Vinegar of Roses. According to him Horses hoofs fried in Butter mitigate this disposition of the *Pylorus*. Also Iron-Waters are highly commended by him.

§. 16.

ULLIS among other things commends, universals promised, this following;

Take of Rhubarb powdered two Drachms, Salt of Tartar six Grains, Cichory-water five Ounces; let them stand a Night in digestion in a warm place. Give it.

Then he gives a Drachm of *Venice Treacle*, drinking two Ounces of the following Iulep upon it;

c c 3

Take

Take of Water of Mint, Cinnamon, Barly each three Ounces, Treacle half an Ounce, prepared Pearl half a Drachm, *saccharum crystallinum* half an Ounce. Mix them. Make a Julep.

At the same time the Author aforesaid toasts a slice of Bread, spreads it with Treacle, dips it in some generous red Wine heated, and applies it hot to the Stomach; and ever and anon he changes it. He does not neglect divers Styricks, prescribed here and there, and, if the Pulse and Respiration be strong, he flies to Opiates; among which he indubitably believes that *laudanum liquidum cydoniatum*, about twenty drops of it given in a draught of the foresaid, or some other Julep.

§. 17.

Sylvius in a bilious *diarrhoea* commends all things that correct the saline Acrimony of the Bile; and this he does by diluting, and acid or gently astringent Medicines, such as Quinces, Barberries not ripe, Verjuice, Plantain, Purslain, fat Earths and *terra sigillata*. But if the Flux be serous, then he orders Hydragogues; for instance, Powder of Jalap; he gives Sudorificks and Diureticks, among which he magnifies a Decoction of Root of *China*, *sarsaparilla*, Butterbur, *lignum Guajacum*, Oak, Box, &c. And he commends roasted Rhubarb and Nutmeg in a *diarrhoea*, be the cause what it will. After he has corrected and evacuated the Bile, he goes to tempering things, for which end he prescribes *diascordium*, Treacle, *confectio hyacinthi*. He commends the following Receipt,

Take of *diascordium* one Drachm and an half, *confectio hyacinthi* one Drachm, Syrup of Myrtles one Ounce, Cinnamon-water half an Ounce, Plantain one Ounce and an half. Make a mixture to be given by Spoonfuls.

In a Coeliack Flux, when Chyle is voided with Excrement by Stool (which it often is upon the obstruction and then breaking of the lacteal Vessels) he uses Consolids, that are a little astringent. But if the lacteal Ducts be obstructed by viscid Phlegm, and the Chyle finds no passage, in that case deobstruent Medicines are good, to clear the carnos Crust from Viscidity.

In a *diarrhoea* attended with Gripes, if it have its rise from Wind (as sometimes, the foresaid Author writes, it has) it must be discussed by giving Carminatives; but if it come from Acrimony of Humors, it must be tempered and corrected by anodyne, narcotick, spirituous and oily Medicines, nor does he neglect divers external Topicks (of which I shall say more below, especially Clysters of sweet Milk, adding Whites of Eggs, Turpentine, &c.

§. 18.

According to the Cartesian hypothesis those pointed Particles, that are in the first ways, or are preexistent in the Mass of Blood, and cause a great disturbance, must be made dull, or as much as may be, must be carried off. Therefore the beginning of Loosenesses they commend Rhubarb, Jalap, Crab-eyes, mixt with other things. The vicious Acid must be corrected by Aro-

Aromaticks, and the spoiled Tone of the Stomach and Guts must be restored by moderate Astringents. When these things will do no good, they fly to Anodynes, which assuage the Acrimony of all the Humors, that vellicate the nervous Fibres, and which remove spasmodick corrugations, yea, which a little fix the Animal Spirits flowing in impetuously, and so may do good.

In a Lientery and Coeliack Passion they prescribe all Balsamicks, called Stomachicks, used either externally or internally.

§. 19.

NOW we will go to our own cure. In every flux of the Belly therefore we use to give a convenient Purge at the beginning to such as are strong and grown, but to weakly Persons and Children we give a cleansing Clyster. If Bile abound, we advise a Drachm of Rhubarb with a Grain or two of *theriaca celestis*, or *pilula stomachales cum gummi mastiche*. In a serious Looseness we commend gentle Hydragogues, which carry off the reliques of the *Serum* by Stool at a little and a little; for instance, Powder of Jalap mixt wth Cinnamon and Nutmeg. Yet in so great variety of fluent Humors we advise the method of Cure to be varied according to circumstances. Therefore in a bilious nature we use to give the following Potion;

Take of the best Rhubarb, not tosted one Drachm and an half, red Sanders fifteen Grains, Shells of Myrebalans half a Drachm, Cinnamon one Scruple, Salt of Wormwood half a Scruple. In-

fuse them for a Night in Water of Arsmart, or Mint, or Oak-leaves three Ounces in a warm place. In the Morning boyl it and strain it. Add of Syrup of Steel half an Ounce, burnt Harts-horn half a Drachm, red Coral prepared half a Scruple. Mix them. Make a Potion. Or,

Take of Root of Rhubarb two Drachms, Nutmeg half a Drachm, Salt of Tartar two Scruples. Infuse them for a Night in Water of Roses or Plantain what is sufficient. Add in the Morning of Syrup of Steel one Ounce. Mix them.

Or in form of a Powder.

Take of yellow Rhubarb one Drachm, Nutmeg one Scruple, burnt Harts-horn half a Drachm, prepared Pearl half a Scruple. Mix them.

Or if *Serum* abound.

Take of Conserve of red Roses one Drachm, Powder of Rhubarb, Jalap each half a Drachm, Salt of Wormwood half a Scruple, Oyl of Nutmeg two Drops, *confectia Alkermes* one Scruple. Mix them. Make a *Bolus*.

Or in form of a Powder.

Take of Powder of Jalap, Rhubarb each half a Drachm, *theriaca celestis* three Grains, Nutmeg one Scruple. Mix them, make a Powder.

The Clysters following, or some such like may be given to weakly People;

Take of the Decoction of Barly one Pound, Honey of Roses two Ounces. Mix them for a Clyster. Or,

Take of our laxative Powder six Drachms.

Take of Mechoacan, *chebuli*, Myrobalans moderately tosted each half an Ounce, Nutmeg four Scruples, Mace two Scruples. Mix them. Make a subtil Powder. The Dose one Drachm.

These things premised, we make diversion with Sudorificks and Diureticks, such as Decoctions of the Wood of *Guajacum*, Oak, and several others.

But to remove the Pains and Convulsions of the Guts, and to assuage the malignant sharpness and acidity that offends the Nerves, we frequently use the following Powder;

Take of *terra sigillata*, prepared Emerald, diaphoretick Antimony, Cinnabar of Antimony, *terra chatechu* each one Scruple, *laudanum opiatum* three Grains, Oyl of Cinnamon one Drop. Mix them for several Doses.

And if there be malignity, add to this Powder, some of the Backbone of a Snake, that so you may kill two Birds with one stone.

You may also give divers Carmatives and Medicines of Treacle, you may often repeat the Absorbents, adding some Bezoarticks, and things good for the Nerves;

Take of Essence of Treacle two Scruples, Balsam of *Peru* one

Scruple, anodyne Essence half a Scruple. Mix them.

The following Powder often does good;

Take of Bezoartick Powder one Drachm, prepared Cinnabar, Cinnabar of Antimony each one Scruple, Castor half a Scruple, *Laudanum opiatum* two Grains, Oyl of Cinnamon, Mint each one Drop. Mix them.

You may meet with such Receipts among the most celebrated Authors. But because most of them then knew not the convulsive Motion, they omitted Antispasmodicks generally in their Receipts: And this is the reason, why we are so prolix in writing Receipts, for the sake of young Beginners. We must therefore know, That the Stomach and Guts receive great relief by Opiates and balsamick Aromaticks. For they gently assuage the membranous and sensible fibrous Parts; so that after the taking of them all painful irritations generally cease. For this end I usually give the following balsamick, opiate mixture with great success;

Take of Conserve of Roses, Chocolate of *Sevil* each two Ounces, *crocus Martis*, prepared Amber each one Drachm, native Cinnabar two Scruples, Balsam of *Peru* one Drachm, *laudanum opiatum A. S.* six Grains, *diacinnamon reg.* six Drachms. Mix them. Or,

Take of Conserve of Roses two Ounces and an half, burnt Harts-horn

horn prepared two Drachms, *terra vitrioli dulcis* one Drachm, one anodyne Sulphur of Vitriol our Scruple, Mother of Pearl prepared half a Drachm. With Syrup of Coral, Quinces, Steel, &c. make an Electuary. The Dose one Drachm.

The anodyne Sulphur of Vitriol prepared my way is a great Secret with me, and I can safely say, it never failed me. And you may give this or the like liquid Electuary;

Take of Conserve of Comfrey, Mint each one Ounce, Extract of Tormentil, Salt of Coral, Tincture of Mars, Amber each one Scruple. Make them into a liquid Electuary with styptick Syrup.

In a Lientery and *Cœliaca* we depend most upon Balsamicks, and we give the following styptick stomachick Liquor;

Take of *terra chatechu*, Root of Aron, Tormentil, Pœony each what you please. With the Essence of Balsam of Peru, volatil Spirit of Vitriol and Spirit of Mastich mixt, what is sufficient, adding of Oyl of Cinnamon, Mint, Nutmeg each a little, make an Extract, as above.

If you add to this Liquor the anodyne Tincture, you will do feats in the foresaid Diseases, especially if there be a Salt and biting Serum, which you may judge by the excoriation and inflammation. So you may add *laudanum cydoniatum* or *theriaca cœlestis* to the precipitant Powder. And here you must take notice, That you should not pre-

sently desist from such Medicines, but repeat them every five or six hours, and continue them for a good while: and if there be much Serum, more solid than liquid things should be given.

We commend likewise our corroborating Liquor, especially in a *cœliaca*, and a Lientery, to correct and encrease the Ferment of the Stomach, which has also a faculty of tempering and asswaging the sharpness of the bilious Humor. Or,

Take of Spirit of Wine rectified, sweet Spirit of Salt each one Ounce. Mix them, and rectify them. Then you will have of these Spirits one Ounce and an half. Then,

Take of Spirit of Wine rectified half an Ounce, to which add of Oyl of Cinnamon twelve Drops, Cloves six Drops, Roses four Drops, Extract of Lignaloës two Scruples. After Solution mix them with the aforesaid Ounce and an half of Spirit. Digest them some days. The Dose 20 or 30 Drops.

For bridling the fury of a bilious Flux and tempering the sharp, salt *lixivium*, Universals premised, I highly value Whey, oily Emulsions of the four cold Seeds, Tincture of Roses, Testaceous Powders, Opiates, &c.

In a *diarrhœa* also, which comes from a vitriolick Acid, where the Excrements are black, we recommend the same Medicines, and all volatil oily Spirits.

If the Bile be infected with any poysonous sharpness, which may easily be observed by the Symptoms,

ptoms, we must insist a while on Alexipharmacks and Bezoarticks; and they must never be neglected.

Among Externals divers Bezoarticks are good, and moderate Astringents, Nervines and Anodynes. Here follow some Receipts for young Physicians.

Take of our stomachick Balsam made with Chocolate two Ounces. Make a Cataplasim for the Stomach and Belly. Or,

Take of Oyl of Mastich, Mint each half an Ounce, Nutmeg, Quinces each one Drachm, Worm-wood ten Drops. Mix them. This strengthens the Stomach and binds.

Among these we may reckon di-

vers stomachick Plasters; for instance, *Wedelius's* Plaster of Treacle and carminative Oyls, one made of Chocolate and *diascordium* with Sack, also one of Tacamahaca. *Theriaca coelestis* may be applied to the Navil, and divers Bags made of aromattick and emollient things may be applied to the whole Belly.

In a Lientery and a *Cœliaca* we must have more regard to balsamick and spirituous things. The whole Belly may be anointed twice a day with the following Oyls mixt together;

Take of Oyl of Mastich, Quinces, Roses each half an Ounce, Nutmeg half a Drachm. Mix them.

You may see the rest in the Disease we call *cholera*: for I would not be nauseous in my repetitions.

C H A P. IV.

Of a Vomiting and Looseness.

§. I.

AMong very violent and acute Diseases of the Belly, which afflict Mankind, a Vomiting and Looseness is not the least. It is called *Cholera* from *Χολη* *cholē*, and *ῥέω*, to flow, wherefore *Aurelian* calls it *felliflua passio*, some call it *febris cacatoria*, some *choleric passio*, others give it other names, and those that would know them, may consult Dictionaries: For we are more intent on things than words. We will proceed therefore to the definition. I think this may serve, *It is a depraved and convulsive Motion of the Stomach and Guts, yea, of the Mesentery, Pancreas, &c. arising from the spasmodick contraction of the Fibres of the Stomach and Guts and other Parts, by which perverse and contrary Motion corrupt Humors are violently voided upwards and downwards.* And Physicians make several sorts of this Disease; one sort is periodical; another continual; one malignant; another benign: But the most remarkable and received distinction is into a moist and dry *Cholera*. The latter is, when Wind is so pent

up in the Stomach and Guts, that it can no way get out. But because this belongs rather to a Tympany or Wind Colick, we will pass it by, and rather insist upon the explication of the nature of a *Cholera*, first of all considering the Part affected.

§. 2. *Part affected.*

NOW the Part affected according to *Galen*, is both the Orifices of the Stomach, and most Physicians are of his Mind. *Celsus* thinks this Disease lies in the Stomach and Guts. *Hilment* accuses the *Pylorus* of the Stomach for the Part principally affected. We hold, That the Guts, Pancreas and Gall-bladder are as well Parts affected as the Stomach, because first, there are Signs of the Guts being affected, namely, rumbling in the Guts. And secondly, we have found the Guts gangrened in such as have died of it. But the Parts chiefly affected are the Fibres of these Parts, and the Glands of the Guts, in which the peristaltick Motion may as well be inverted, as it is certain, that there are nervous Fibres in the Guts, Pancreas, and Gall-

Gall-bladder, as well as in the Stomach: And likewise these two Champions, the Bile, and pancreatic Juice meeting in the *duodenum* may occasion this Disease. So that there is no reason, why we may not take the Guts, *Pancreas* and Gall-bladder for Parts affected, as well as the Stomach. This will be more apparent from the following Case.

A Case.

A Woman twenty Years old, of a cholerick Constitution, accustomed her self to eat sweet and fat Meats, and raw Fruit, was in Summer-time taken with a violent Tooth-ach (for long ago *Galen de art. med. lib. 8.* knew that any Pain causes Defluxions) her Spirits being enraged by the pain, when she went to bed, she found a violent pain in her Head, with a great heat in her Body, nauseousness, thirst, wakefulness, Pain at her Heart and Stomach: A little afterwards she vomited and went to Stool frequently, so that she filled several Pots. Her Excrements were liquid, bilious and ash-coloured, and came away with much Wind, Griping and Oppression of the Heart. She fainted, was in a cold Sweat, and grew very weak. These things are sufficient to show what it is, especially if the following Paragraph about the Diagnostick be perused.

Diagnostick.

And it is highly necessary, since according to *Trallianus* the Diagnostick is the foundation of a right Cure; for any one may easily judge how great the necessity and

utility of diagnostick Signs are; wherefore it will be worth our while to do our endeavour to describe them aright. The Disease is shown to be imminent by a violent pain in some Part, especially in the Loins, sowre and nidorous Belchings, Rumbling in the Guts, puffing up of the Belly, Anxiety of Heart, Head-ach, plentiful eating of corruptible Meats, Cucumbers, Melons, all horary Fruits, and in a word, all such as are commonly called cold ones. The following Signs denote it to be already present. Bilious, acid and nidorous Stuff is voided by Vomiting and frequent Stools for several hours, yea, and days, just as if the Patient had taken Poison, there are prickings in the Stomach and Belly; the Excrements are at first liquid, afterwards they are thicker and better coloured, sometimes they are tinged with a citrine, green, leek green, blew (such as I saw the same Summer wherein I wrote these things) black and bloody colour; and sometimes they are voided white, with Wind and the Gripes; yea, if there be malignity, they incline to an ash-colour, and keep that colour a long time. There is also a great thirst. Urine there is little or none, because all the Liquids are discharged out of the Body upwards and downwards by other ways. The Body all over in a cold Sweat, the Pulse is frequent and little, sometimes it ends in an intermittent one; then comes cold in the extreme Parts, Swooning, Hiccough and Convulsions; when the Disease encreases there is often a Convulsion and drawing of the Muscles, but especially of the Calves of the Legs, and now and then of the Hands; but that of the Calves of the

the Legs is a Symptom peculiar to this Disease.

§. 3. Cause.

THese were the Signs, now we will search out the immediate cause of this Disease, in the order which we have hitherto observed. And first of all let us hear the Opinion of the *Ancients* concerning this Matter. They say, That Bile is the cause of this Disease, and thence they gave it its name. This Bile, they hold, is gathered all over Mens Bodies in great quantity, and is poured out of its Bladder into the Stomach and Guts. And they hold, That this hurts the Retentive Faculty, and they prove it by this, Because this Disease rises from bad, corrupt, sweet and bilious Food. Wherefore if the Bile make its attempt to escape by the Mouth of the Stomach, they say it is vomited. But if it be gathered in the Guts, they say it is voided by Stool. Wherefore they blame a hot intemperature of Stomach, arising, to wit, from Bile. Moreover they assert, That sometimes an ill Humor falls from the Head upon the Stomach, and so the expulsive Faculty is hurt.

§. 4.

Let us now proceed to *Paracelsus* his Opinion, who differs in Opinion, and holds, That the *cholera* as a sort of *morbis dissolutus*, and that an aluminous Salt is wanting in the Stomach; so that on the contrary the entallick Salt, which expels upwards and downwards, stimulates the expulsive Faculty, for according to him, where these Salts are not, there is neither Vomiting nor Looseness. So that it appears

from what has been said, That a *Cholera* and other fluxes of the Belly must be reckoned to come from the predominance of a saline Principle, and indeed of a dissolved Salt either separated or corrupted. For this Salt is sometimes purgative, helleborine, sometimes antimonial, sometimes scammoniate, contained either in the Food that is taken, or in the internal Principles of the Body. Which Salts, if they be dissolved, do breed these Laxities and frequent Stools.

§. 5.

Helmont says, That the Blood in a *cholera* turns into a pungent, corroding, watry Liquor, and not, as the Schools would have it, into a bitter Excrement. For when any thing putrefactible, or, as he speaks, cadaverable is taken into the Stomach, wanting its digestive Ferment, then it putrefies and digests not. Whatever also a *Cholera* touches, it taints and turns it into Poison, whence the disturbance of the *Pylorus* and Guts flows, and all Liquids are voided upwards and downwards.

§. 6.

Millis thinks, That in a *Cholera*, the fleshy and moving Fibres of the Stomach and Guts are by remote causes put into solutive Contractions of the Belly. For the violent Passions of the Mind and Body often cause it, to wit, inasmuch as the Spirits in the Head or in some principal Parts of the nervous *Appendix*, being greatly disturbed, and presently by the Passages of the Nerves or nervous Branches communicating their disorder to the Spirits that reside in the

the Stomach and Guts, do put them in Convulsions. Wherefore he shows, That this Disease is a Spasm or Convulsive Motion of the Stomach and Guts, which is excited, when a vitious Chyle, made so by the Food, or the fermentative Juice of the Stomach degenerates into an Acid, austere or bitter, or otherwise troublesome Humor, and there irritates. Also an irritative Humor, according to him, is sometimes poured into the Stomach and Guts out of the Arteries; Bile likewise and the pancreatick Juice, sometimes severally, sometimes jointly, being exalted by a mutual effervescence in the Stomach, do put the Fibres into vomitive and laxative Spasms. And sometimes a turgescient Matter voids its Recrements, since it cannot expel them by transpiration, Into the Cavity of the Stomach and Guts, by the Branches of the Coeliac Artery, so that their Coats being notoriously vellicated, do suffer horrible Vomitings and choleric Passions, by reason, that is, of the animal Spirits being some where disturbed and fired. And he holds, That other Spirits residing in the Stomach and Guts may also be affected either by continuity of Fibres or communication of Nerves, and may so be put into vomitive and purgative explosions.

§. 7.

Sylvius blames an effervescence of Humors caused amiss in the small Gut, and sharp Bile, and then a violent Motion of disturbed Humors, caused by horary Fruits, that are wont to decay. For this Disease is apt to come from Humors preexistent in the Body,

or upon an external Error committed in Diet. And both sharp and bilious Humors are violently and abundantly voided both upwards and downwards, together with great Oppression at the Heart. Wherefore he reckons that this Disease proceeds from the peristaltick Motion of the Guts, inverted only in part.

§. 8.

The Cartesians say, That in this Disease the Fibres of the Stomach and the *intestinum duodenum* are contracted upwards, by the cutting, acute, pointed and otherwise unequal Particles; and of the other Parts both upwards and downwards, and so the corrupt Humors are voided. And they hold, That this vellication of the Fibres cannot last long without a great fury of the Animal Spirits, that are disturbed in their order and stations, and do strangely stir up this spasmodick Motion by their incongruous assaults; whence proceeds this disturbance of the whole Animal œconomy, just as if the Patient had drank Poison.

§. 9.

WE will now enquire what forces appear in our Disease, that is, in a Vomiting and Looseness. I make no question but the principal is an Acid, which yet varies very much, as it is mixt with Bile, or other alkaline, earthy Particles, implicated with divers Meats, which according to their divers mixture and texture make the Disease either malignant or benign, especially if they meet with a separate Acid. Now a great

Mass

Mass of malignant contrary Humors are gradually gathered in the first Region of the Body, or it flows thither, either critically or symptomatically, and stimulates the Guts to a perpetual ejection. Sometimes also an additional corrosive of the Alkali of the Gall, so corrodes the Guts and their Fibres, that it causes a Gangrene, which we, as was above said, not long since found in one that was opened, who died of this Disease. This *Alkali*, when it infects the Blood and raises a Fever, often hastens death. For the Bile, being made too sharp, does by its saline Prickles prick and vellecate its own *capsula*, and the nervous Fibres of the Stomach, Guts and *Pancreas*; by which vellecation the Animal Spirits are disturbed, wherefore they flow in more impetuously, and so cause a spasmodick Motion, which must needs be attended by frequent and violent Vomiting and Purging. By this contraction all the contained Liquors must of necessity be cast out of their Vessels, and at last quite out of the Body. For all the urgent Symptoms in this Disease may easily be derived from the Salt of the Bile being made too volatile and sharp. And if the Bile be imbued with a singular poisonous sharpness, then the Disease is called malignant; for whence should this violent evacuation upwards and downwards proceed but from these saline Prickles, which stimulate and corrugate the orbicular Fibres of the Stomach and Guts, and the intestinal Glands? Whence, I pray, this pricking Pain, nauseaousness and anxiety: Come they not from these Prickles? And if some viscid Matter concur, that, when it is exalted into Vapors by

Fermentation, causes roaring and rumbling in the Guts, familiar to choleric People. According to the diversity of the procatactick cause, the Excrements are voided different in consistence, colour, smell, &c. If the Patients also have drunk much Liquids, then they are to be infected with the exalted Bile, both as to taste and colour. This Medley being got into the Stomach doth further corrupt the Ferment of the Stomach, which is already corrupt, whence comes want of Appetite. The Hicough is also raised by these saline Prickles, while they vellecate the Stomach, and by consequence put the Diaphragm into a Convulsion. This bilious rage of the Stomach and Belly (if you mean the procatactick cause) is easily produced by excessive eating of horary Fruits and other meats, that are apt to corrupt, such as are sharp and crude, sweet and too fat, Sawces and Spices. Among horary Fruits these are apt to cause this Disease, Plums, Cherries, Grapes (especially before they are ripe) also Cucumbers, Melons, Pumpions, Leeks, Onyons, Cabbage, especially pickled after the German way, the Row of a Barbel, as *Guldenklees* testifies. Among aromatick things these are bad, Pepper, Horse-radish, also all purging Medicines, Poysons, cold Water, new Wine, Spaw-Waters drunk unseasonably, and other things which may contribute their Parts, of which we shall speak more largely, when we treat of Diet. But let us go to the

§. 10. *Prognostick.*

Prognostick, that Delphick Oracle of Physicians. A Vomiting and Looseness therefore is a very acute Disease, which kills a Man not only in a very few Days but Hours. And if no evident cause have preceded, then it is more acute and malignant, than that which proceeds from corrupt Meat, or from drinking of Poyson. Moreover also this Disease threatens death, if there be a weak Pulse, Palpitation of the Heart, Swooning, Hiccough and Convulsions. Also death is at hand, if the Pulse intermit, if the Urine be livid or black, and if the extreme Parts be cold. Yet we must here take special notice that of this as of other acute Diseases Predictions are not always safe, as *Hippocrates* says. I can attest this upon my own experience in my dearest Wife: for in this Disease there concurred, great weakness, cold Sweats, Palpitation of the Heart, Swooning, loss of Speech; and yet by the use of proper Medicines she escaped the Jaws of death. This also is a formidable Disease in old Men; but they are seldom taken with it. It uses to turn to heat of Urine or the Strangury: and I have known the event of this prove well.

§. 11. *Dietetick Cure.*

The Cure follows the Prognostick, and 1. the Dietetick. The Air must be temperate and enclining to cold; on the contrary an over hot one must be avoided; for it encreases Bile, and makes it more sharp and volatil; it destroys the Acid, which is its allay, and it

dissolves and dejects the Stomach and its Ferment. Wherefore *Hippocrates* was not mistaken *aph. 15. 1.* when he says, *That Mens Bellies are hottest in Winter and Spring, and therefore they have more need of plentiful Food, because then an Acid is most in its vigor.* He says, *Epid. 6. l. 10. a Cholera comes most in Summer, less in Spring and Autumn, and least of all in Winter.* For Summer makes all the Humors sharper; and hence things that are taken, do the easiest corrupt in Summer time, and degenerate into bad Juices; and this is the reason also, that Fluxes of the Belly are more frequent in Summer than in Winter.

A little Meat must be given, and that easy of Digestion. Let the Broth be tempered with tart things. The Bread must be of Wheat, with the Juice of Pomegranate or some other Acid, which is a little astringent. But all fat, sweet and sharp things must be utterly avoided, as Oyl, Butter, Pepper, Ginger, Mustard, and all sharp distilled Oyls, all horary and oily Fruits, as we said before, to wit, Melons, Pumpions, Cucumbers, &c. as likewise all things that are apt to corrupt, among which are Swines flesh, all Milk-meats, Fishes, namely Eels, &c. And all violent Purgers must be forborn.

As for Drink, it must be either Wine of Quinces, or some other that is tart and subastringent, or a Julep made of Water of Meadow-sweet, Burdock, *Scordium* and Spirit of *terra sigillata*, or Almond-Milk or Chalybeate Drink. But let the Patient wash his Mouth oftner with tart things, than drink much. On the contrary all generous Wines, new Wine, new Beer, Mede

Mede and several other crude drinks are hurtful. Nor must the Stomach be loaded with an excessive quantity of potent Matter; for thereby the Ferment of the Stomach is drowned, and rendered quite useless. Rest must be advised. Sleep also is very good. On the contrary, long watchings sharpen and inflame the Bile.

Let the Passions of the Mind be restrained, especially anger, sadness and frightfulness; for they greatly encrease Bile. They quicken the Spirits and Motion of the Blood, and so breed more Bile. And this is all we have to say of the Dietetic Cure.

§. 12. Pharmaceutick Cure.

Now the Pharmaceutick Cure follows; and first of all according to the Ancients, who in the beginning of this Disease, while the peccant Matter may be any way thrust down to the lower Parts, and the strength is not too much spent, do give some proper purging Medicine; adding things to correct the Acrimony of the Humors. Their purging Medicines are these following, *cassia fistula*, Manna, Rhubarb, and they would have this particularly observed, That a Vomit must not be immediately stopt at the beginning, but rather promoted by drinking some Broth of Flesh or Chicken. But if the Vomiting be very violent, they endeavour to avert the tendency of the Matter upwards by the following or some such other Clyster;

Take of Barly half a handful, Flowers of Violets, Leaves of the les-

ser Centaury, Wormwood, Mint, Flowers of Chamomil, Melilot each one handful, choice Rhubarb two Drachms and an half, Polypody three Drachms. Boyl them in a sufficient quantity of Water. Add to the Colature of Oyl of Mint, Chamomil each one Ounce and an half, generous Wine two Ounces, *diacatholicon* three Drachms. Mix them. Make a Clyster.

For if the morbidick Matter be in a great measure already evacuated, as it is usually in four and twenty hours, then they use such Medicines as may avert the Motion of the Humors from the Stomach; and they draw the Matter to the lower Parts by the above-said Clyster, or by Ligatures and Frictions, and things that shall be hereafter mentioned. Moreover they try to stop the impetuous flux of Humors, and to strengthen the Stomach and Guts by strengthening Medicines, such as Syrup of dried Roses, of Juice of Pomegranates, Quinces, Limons, *diacodium*, candied Citron Peel, Conserve of Roses, a Cup of Cold-Water, which yet the Patient must drink moderately and at times, Treacle, Mithridate, white Poppy, red astringent Wine mixt with Chalybeate Water. A Clyster especially of the heads of white and red Poppy stops the Motion of the Humors and causes pleasant sleep. The Ancients have found by experience, that throwing cold Water suddenly in ones face, has sometimes stopt a Vomit.

Among Externals they place various Unguents, Cataplasms, Plasters, &c. whereof there is an infinite number, a *dropax* especial-

ly of Pitch, and Oyl of Quince applied outwardly, they say, stops a Vomit excellently. So *Archigenes*, a very ancient Physician, durst in the greatest heat apply cold Water, yea cooled in Snow, to the Stomach, either in a Cloth or a Bladder; but try it, who dare. Certainly there is great danger of expelling all the innate Spirits. They advise the application of a Cupping-glass between the Stomach and Navil; they also prefer *ceratum stomachicum Galeni*, *emplastrum pro stomacho Mesues*, *masticinum*, and *de crusta panis*. Lastly, they hold, that care must be taken of the Symptoms which occur in this Disease, namely Swooning and Convulsions, whose Cure may be gathered from what has preceded.

S. 13.

THE Paracelsian Chymists hold, That every lax Disease is from Salt, and they say, there can be no going to Stool without Salt; yea, their Master *Paracelsus* contends, That the expulsive virtue is in the very Dung or Salt of a thing, and that every Flux arises from the Stomach, that is, because the Stomach separates not aright, and therefore they will have the Cure directed only to the Stomach, contending, that the Cure is performed by Salts, and that the Salt must be rectified again, and the dissolved must be separated from the entire: Afterwards a sulphureous Cure ought to follow, as a confirmation of the Operations in the Salt. And yet in his second tract *de vita* he says, we must first purge with proper Medicines, and he writes, that binders unseasonably used in all excessive Fluxes of

the Belly do more hurt than good. Their famous things to stop the Flux and strengthen the Stomach and Guts, are Martial Medicines, such as *crocus Martis*, *tinctura Martis*, *terra sigillata* also and *vitriolata*, Magistery of Coral, among these may be reckoned Unicorn, *Cadmia*, Loadstone, Nitre, Alum, Talc, Bones of the Microcosm, rectified *Opium*, true *landanum*, five precious Stones, prepared Gold, &c. which are generally in this case commended by *Paracelsus*.

S. 14.

Mills, besides divers laxatives given in the beginning, Clysters and styptick corroboraters, especially to quiet the rage of the Spirits, which is here very urgent, does commend *landanum opiatum*, *cydoniatum* and *tartarisatum*, that stout conqueror of the Animal Spirits, and then he adds divers Antispasmodicks, which one may easily gather from what shall be hereafter mentioned.

S. 15.

Sylvius uses the following method of Cure. Whenever the Irritation of the Guts to an inversion of their peristaltick Motion depends upon a vitious effervescence of sharp Humors meeting together, then these sharp Humors together with their violent Effervescence must be tempered and quieted. In a peccant Acrimony therefore either of saline or acid Humors, he commends the following mixture to be taken by Spoonfuls at short intervals;

Take

Take of *Diascordium* two Drachms, *confectio de hyacintho* one Drachm, Syrup of white Poppy one Ounce, Plantain-Water two Ounces, Fenil-Water one Ounce. Mix them.

Then the Humors so corrected may be evacuated by Cholagogues. If the peccant Matter tend upwards, he makes no Scruple of giving a gentle Vomit, mixt with Opiates: for instance;

Take of *saccharum vomitivum* two Drachms, *laudanum opiatum* one Grain, Mint-Water what is sufficient. Mix them.

But if the Acrimony of the Bile will not yet abate, it may be corrected with the following, or some such like mixture;

Take of Water of Plantain, Purslain each one Ounce, sweet Spirit of Salt half a Drachm, *diascordium* one Drachm and an half, Syrup of Purslain one Ounce. Mix them.

Whenever a *Cholera* arises from horary Fruits, then the excessive Effervescence of the Humors is best checked by Opiates, among which *laudanum opiatum* is the last refuge. It is checked also by the same Opiates, whether it arise from the precedent cause, or from a too large Dose of Vomiting Medicines, or from Poison: for which end our Author commends the foresaid Mixtures, a Grain or two of *laudanum opiatum* being always added. For Opiates do as well temper all Acrimony, and quiet the consequent Effervescence, as they lay asleep the external Senses. But if the Di-

sease proceed from Poison, that is from Orpiment, Mercury sublimate, or Arsenick, then oylly things, namely Broths, and milky things, especially Butter-Milk must be given, which must be continued as long as Pain, Nauseousness or Vomiting remain.

§. 16.

THe Cartesians, to check the fury of the Animal Spirits, that are disturbed, and invade the Stomach and Guts with incongruous Particles, and put them into a spasmodick Motion, commend Bezoartick Opiates: for instance;

Take of *Diascordium* half an Ounce, Oriental Bezoar-stone half a Scruple, *theriaca oelestis Hanoviensis* seven Grains. Mix them. Make an Opiate for twice taking.

In this case also they magnify all ponderous things, such as Crystal, Bole-Armenick, Blood-stone, *terra figillata*, and a thousand other things which may be found in the following Paragraph.

§. 17.

NOW, lest we should fall rashly on the Cure, will proceed in order: for this Disease varies according to the variety of Causes and Symptoms. If therefore a *Cholera* arise from corrupt Meat, which sticks still in the Stomach, and the Patient be prone to vomit, you may safely give *Sylvius* his Vomit, or this that follows, especially if you have any suspicion of Poison: for by benefit of this not only the peccant Matter that velleitates the nervous Fibres of the Stomach

mach and Guts is cast out, but these Fibres are pacified, and so the Pain ceases. But you must take great care, that you make not the Animal Spirits more unquiet, and so encrease the Disease ;

Take of the emetick Syrup three Drachms, *laudanum opiatum* one Grain, Salt of Wormwood three Grains. Mix them. Or,

Take of emetick Tartar one Grain, Salt of Wormwood two Grains. Give it in Mint-Water or Barly-Cream.

And we may give a Vomit of Oyl Olive or of Sweet Almonds.

But if nature evacuate sparingly downwards, and with great perturbation upwards, then, besides loosening Clysters, of Whey, sweet Milk, Mutton-broth or the emollient Decoction seven Ounces, Oyl of Violets, brown Sugar, each one Drachm, [the Yolk of an Egg, or of Whey and Syrup of Roses solutive, Ligatures and Frictions will be proper. When the Vomiting is greater and the Stools less, divers Laxatives are proper, among which we highly value Whey of Sheeps Milk, with a little Pulp of Cassia, which both takes away the Heat and Pain, and gently loosens the Belly. Yet in this case Alexipharmacks must always be added. If the Bile be thick, Honey of Roses or Solutive will be proper with Whey, or choice Rhubarb one Drachm, Cinnamon one Scruple. Mix them. You must never give Repellents and Strengtheners at the very first, but if the strength will bear it, you must wait a few hours, till most of the Matter is carried off. For you must take dili-

gent heed, that you keep not the Bile in. We suspect Manna and Sugar, because they dissolve the Tone of the Stomach, and vitiously ferment with the Bile. But when the Matter is evacuated, then by degrees you may proceed to Corroboraters, and things to stop Vomiting; and then all the Physician has to do, will be to temper the sharp Matter, which you may do by giving a Decoction of Barly and Syrup of Pomegranates frequently. This following may be given conveniently to stop the Vomiting ;

Take of Oyl of Nutmeg by expression fifteen Drops, *laudanum opiatum* a Grain or two. It may be often repeated.

The Ancients commend a Decoction of Mint with Juice of Pomegranates, which is also astringent. They likewise commend the following Electuary ; whereby I can say I have cured several ;

Take of old Conserve of Roses one Ounce and an half, *diascordium* half an Ounce, red Coral, *crocus Martis* each one Drachm, prepared Pearl half a Drachm, rock Crystal one Drachm, Syrup of Pomegranates and Mint what is sufficient. Mix them. Of this Electuary take the quantity of a Chestnut.

The use of rock Crystal is also excellent either a Drachm of it alone or with Powder of Sanders, several times repeated. The following Emulsion is good.

Take

Take of sweet Almonds one Ounce, white Poppy Seeds half an Ounce. Mix them. Make an Emulsion.

If Bile be too fierce, and Vomiting be the more violent, you may order the following Clyster;

Take of Root of Cinque-foyl, Butter-bur, *Scorzonera* each two Drachms, Leaves of Orpine, Calamint, Ground-Ivy, Plantain each one handful, Cordial Flowers, Marigolds each one Pugil, Pomegranate Flowers two Pugils, Citrine Myrobalans one Drachm and an half, Fenil Seed half a Drachm. Boyl them in Mutton-broth. Add to half a Pound three Ounces of the Colature of *mel rosatum laxativum* half an Ounce, *micleta Nicolai* half an Ounce, Oyl of Sweet Almonds one Ounce, Turpentine dissolved in the Yolk of an Egg two Drachms. Mix them.

Or one more abstergent;

Take of Root of Marsh-mallow, Bugloss each half an Ounce, Leaves of Pellitory of the Wall, Mallow each half an handful, Flowers of Chamomil, Colts-foot each one Pugil. Boyl them in a sufficient quantity of Barly-Water. In ten Ounces of the Colature dissolve of brown Sugar one Ounce, Turpentine dissolved in the Yolk of an Egg half an Ounce. Mix them. Make a Clyster.

These Clysters premised, we may betake our selves, whatever some Physicians say to the contrary, to Clysters, that are more astringent

and edulcorating. Here is a Receipt or two for young Physicians.

Take of Root of Tormentil, Bistort each half an Ounce, Leaves of long Birthwort, Silver-weed, Sannicle each half an handful, Flowers of red Roses, Pomegranate each one Pugil, Berries of Sumach two Drachms. Boyl them in sweet Milk Chalybeate. In nine Ounces of the Colature dissolve of Deers, Suet one Ounce, Juice of narrow Plantain new drawn one Ounce and an half, the Yolk of an Egg, *laudanum opiatum* one Grain and an half. Mix them. Make a Clyster. Or,

Take of a Decoction of Birly, &c. new Treacle three Drachms. Mix them. Make a Clyster.

The more celebrated internal Astringents, are, Juice of Mint, Spirit of Mastich, Juice of Roses, prepared Pearl, red Coral, its two-fold Tincture, *crocus Martis*, *terra sigillata* and its Spirit, Powder of Liquorice, with Cinnamon and Shavings of Ivory, all acid Juices with astringent Powders, and odoriferous things, and a thousand others. But Opiates excel them all, especially the *laudanum opiatum cydoniatum Hoffmanni* and *theriaca celestis Hanovienfis*; which yet in the progress of the Disease must be given with caution, and they must be often repeated. *Pilule diascordii Sylvii* are of approved use, and so is *theriaca smaragdiza D. Petri à Castro*, especially if there be Convulsions.

Oftentimes, I may say always in a manner, malignity accompanies a Cholera, depending upon a too

volatil Acrimony, which must be driven out by Sweat; to which end the following or some such like mixture will be proper;

Take of Water of the Velvet of Harts-horn one Ounce and an half, Bur-dock compound one Ounce, Mastich six Drachms, volatil Salt of Harts-horn six Grains, *scordium* half a Scruple, prepared Crystal half a Drachm, best Lignaloës one Scruple, *tinctura bezoartica Michaelis* six drops, *syrupus totius citri* one Ounce. Make a mixture for six and thirty times.

Sweats of Treacle after the tempering of the Humors are good.

For the ordinary drink in this case a Decoction of *Scorzonera*, Harts-horn, Berberries and Myrtles with the addition of Spirit of *terra sigillata* is good, also a Decoction of Clove-gilli-flowers is good. Or,

Take of Mastich two Drachms, styptick Liquor one Drachm. Mix them. The Dose is from twenty to thirty Drops in Broth or some other Vehicle. Or,

Take of Spirit of Mastich half a Drachm, Vitriol of *Mars* two Scruples. Mix them. Or,

Take of Essence of Mint half a Drachm, Spirit of Mastich one Drachm, Vitriol of *Mars* one Scruple. Mix them. Or,

Take of rock-Crystal one Scruple, Oriental Bezoar and Occidental each two Grains, Harts-horn philosophically prepared sixteen

Grains, Crabs-eyes one Scruple, *laudanum opiatum* two Grains. Mix them. Make a Powder, and divide it into two equal Parts. Or,

Take of Water of Mint, *cinnamomi cydoniati* each half an Ounce, Ivory prepared without fire, Magistery of Coral with Juice of Citron two Scruples, prepared Emerald one Scruple, Syrup of Coral one Ounce. Mix them. Or,

Take of Mother of Pearl, red Coral, Pearl, *terra sigillata* each one Scruple, *theriaca coelestis* four Grains. Mix them. Make a Powder. Or,

Take of Crystal of *Mars* twelve Grains, *laudanum opiatum* two Grains. Mix them. Or,

Take of Tincture of *Opium* half a Spoonful, Camphore six Grains, Oyl of Nutmeg seven Grains, Conserve of Roses what is sufficient. Mix them. Or,

Take of *pulvis antidyentericus Augustanus* half a Drachm, red Coral, Crabs-eyes prepared, Pearl prepared each half a Scruple, *crocus Martis astringens* twelve Grains. Mix them. Make a Powder for six and thirty Doses.

To this end Vesicatories may be applied to the Wrists or Ankles, as there shall be occasion.

We obviate Oppression at the Heart and Swooning with Juleps or Emulsions made of sweet Almonds, with Barly and Cinnamon-Water, or other known Cordials before mentioned. For the poorer sort

a Decoction of Agrimony with Baum or Cinnamon-Water may be prescribed; and Syrup of Pomegranates is good. Among Externals these things strengthen the Stomach, Plaster of Gum *caranna*,

de crusta panis, tacamahaca, Balsamus and *Emplastrum stypticum dyⁿsichti*. And a Cataplasm of the Crumb of Bread made with Aromaticks, applied all over the Belly, will do good.

CHAP. V.

Of a Dysentery, or the Bloody-Flux.

§. 1.

A Dysentery derived, of *Δυσ* and *ἔντερος*, by *Cornelius Celsus* is defined to be, *Gripes*, whereby the *Fibres of the Guts* are corrugated, twisted, and vellicated; or an exulceration of the Guts, with a frequent voiding of Blood or purulent matter by Stool, pain and violent gripes, depending on abundance of sharp, corroding particles, that fret the *Fibres of the Guts*. It is a stinking nasty Disease, and very loathsome to nice people; besides, it highly endangers the Patients life, and not only infects all near it, but spreads its contagion over whole Provinces and Countries. Authors make several degrees of it. First, when slime with a little Blood and Pus come together. Secondly, when the inside of the Guts comes away, which we call the shavings of the Guts. Lastly, when the very substance of the Guts comes away. For sometimes *sanies* comes away without pain, which denotes a foul Ulcer. It so happens indeed in the Flux, which we call Hepatick, that Blood comes away without *sanies*, and without much gripes; but then the excrements are moi-

been washed, and a man goes not so often to stool. So also Blood often proceeds from the *Hæmorrhoids*: all which things a prudent and experienced Physician can easily distinguish.

A Dysentery is either benign, or malignant, or epidemical. See *Willis* of the Bloody Flux at London.

§. 2.

THe part which nourishes this snake in its bosom is, by the consent of all Authors, the Guts, both the small and the great. One may easily gather, that the Guts of both sorts are affected, from the running up and down of the sharp matter in their windings and turnings, which causes those sharp gripes. For successively the exterior coat is eroded, then the Acrimony proceeding further eats the fleshy coat, and makes holes in the Guts; then comes blood, mixt sometimes with pituitous matter or *sanies*, and sometimes with bile, which is the reason why the excrements sometimes look yellow. And sometimes the Stomach it self is affected by consent, because of its proximity.

I dare boldly affirm, upon experience, that both the small and large Guts are affected in this Disease. For in opening of six Bodies, that died of Dysenteries, I found both the small and large Guts full of purulent tubercles, which were black and sphacelated; and in one of them I found the *Pylorus* of the Stomach quite sphacelated and corroded; which Patient nevertheless was troubled with violent Vomiting, and ended his days miserably in Convulsions. *Helman's* opinion suits with this, who lays all the blame in a Dysentery upon the *Pylorus*, because it expels out of the Stomach, and draws the cause of the Disease thither. We reckon also, that the glands of the Guts do suffer, and instead of laudable juice send out Blood.

§. 3. A Case.

A Boy thirteen years of age, addicted to eating of horary fruit, in Autumn complained of gripes all along his *Colon*, but they lasted not long; yet after his pain he presently went to stool, and voided slimy excrements with great flakes and fat swimming at the top, with a little Blood on the outside, whence I conjectured, the lower guts were hurt. But within eight days (thanks be to GOD) he was cured by the Remedies, which shall hereafter be mentioned.

§. 4. Diagnostick.

Now we will go to the Diagnostick, without more to do. People in Bloody Fluxes are forced at short intervals to void pituitous excrements with gripes, a chillness preceeding, and heat fol-

lowing; and then the excrements are sometimes mixt with extravasated Blood. Sometimes there comes away purulent and bloody matter, sometimes pure Blood is voided, sometimes it is clotted and sometimes sharp; for I always observe there is an acrimony of Blood in the Patient, which preceeds this Disease (and thence we derive its malignity) which if it be Malignant, it shows other signs of Malignity; but it often appears to be one thing, and really is another. There preceeds, as I said before, a chillness, the common fore-runner of a Fever, which usually arose from sharp or pointed Particles, that were preexistent in the Blood, and caused that disturbance and vellication of the Nerves, then a continual heat ensues upon the enraging of these Sulphureo-Saline Particles, which not only exact and disturb the mass of Blood, but put the very Spirits upon violent motion. Gripes do most torment, by reason of a violent corrosive, pertinaciously fixt in the fibres of the Guts, which spasmolick Convulsions are now, and then continued from the pained Guts to other parts, that is, with a violent disturbance of the animal Spirits.

The remote cause therefore seems to be a salvage acid, pricking, cutting, and irritating the fibres of the Guts. There is also thirst, which here not only arises from the almost total evacuation of the *serum* by frequent stools, but from a sharp salt, which makes the Throat dry and parched. The Patient lies awake all night, because *serum* is wanting, and the sharp Particles, that is, those salvage Salts, not well according, do open and

and dilate the pores of the Brain. And by these same Particles the Nervous fibres of the Mouth of the Stomach are often vellicated; and therefore the Heart-burn is often a Symptom. Falling down of the Arse-gut, and a *teneismus* sometimes afflict People in this Disease, which undoubtedly arises from the prickings of those sharp Particles, which sollicit the fibres of the Guts to excretion. For the Guts being continually prickt and vellicated, are drawn together by virtue of the peristaltick motion, and thence arise divers inconveniences, which are frequent in a Dysentery. Sometimes Blood, sometimes bile, sometimes coagulated *serum* (which they call Phlegm) tinges the excrements, according as the humor or the morbid product is discharged in a greater or less quantity. Oftentimes the Patients feel an acute pain about the Navil, that passes like lightning through the Guts, especially the small ones, which are most Nervous. The pains that are above the Navil and in the Sides, signify that the larger Guts are affected. The rumbling and roaring of the Guts proceeds from a flatulent Gas, produced by an acid. If there be a Gangrene, the part is without pain, and then there is a snake in the grass. If there be an Ulcer in the small Guts, the pain is more acute, than if it were in the large. Sometimes there is restlessness, and that from a sharp Intemperature: And then the pain is more acute and pricking.

§. 5. Cause.

ALl things being now premised, which are requisite to the

knowledge of the Disease, according to the nature of our design, it remains, that we consider, what belongs to the *Ætiology*. The Ancients acknowledge an Ulcer of the Guts for the immediate cause; and for the remote, sharp putrescent Humors, bred in the Guts, evacuated out of the larger Veins, from the Spleen, Liver, Mesentery and other parts, which sollicit the expulsive faculty to frequent stools. They also blame Salt Phlegm, or yellow Choler, or black or adust Choler. And they do not doubt but this Disease also arises from frequent crudities, sharp and bad meats, fruits, poysons and from violent purgers. In a word, they fly to their Quaternity.

§. 6.

IN the opinion of the Chymists this Disease may be ascribed either to a dissolved Salt, which having acquired acrimony in the Guts, burns and corrodes them like a secret fire; or to a dissolved Tartar, and that feculent and not mature, running up and down the Guts; or in particular, according to *Quercetan*, to arsenical, corrosive particles.

§. 7.

Helmont blames his acidity, otherwise the grateful *Nectar* of the Stomach, that angers the *Archæus*, who presently rises against this strange enemy lodged in the folds of the Guts, to expel him. For the *Pylorus* is in a rage; and then the angry *archæus* of the *pylorus* disturbs the whole economy; and hence comes the Bloody, mucous and fibrous flux.

§. 8.

Willis suspects, that the more excellent juices, to wit, the nervous and nutritious, joyned to the solid parts of the body, are despoiled of their temper in the bloody-flux, are as it were melted down and abound in the mass of blood, are carried by the coeliac vessels towards the stomach and guts, and then ouze out by the mouths of the Arteries. And thus he blames the sharp Particles, not only obvious in the first ways, but the degenerate Particles also, which ought to be evacuated and are not, for want of transpiration, because so the recrements of the degenerate blood are driven to the guts, and there make their way by opening the coeliac vessels, whence arises this pernicious and sometimes malignant and contagious disease. Of which see the Author himself on the *London Dysentery*.

§. 9.

Sylvius attributes the Cause of this Disease not only to sharp bile, and an acid pancreatick, juyce, by which he as well as others, thinks the guts are ulcerated and eaten, whence sometimes proceeds that plentiful excretion of blood, and chiefly of Pus, but he says, that generally this Disease arises from an acid humour, and not only from a corrupt and over sharp bile. For the lixivious Salt of the bile, being made very sharp, may indeed cause a gangreen, but seldom or never an Ulcer. Because, as he says, an Ulcer is an effect of an Acid, not of any thing lixivial.

Wherefore unless an acid and sharp humour be mixt with the bile, a Dysentery will never arise; but an acid and sharp humour alone, carried to the guts, may cause one.

§. 10.

Cartes pretends hooked, pointed and forked Particles, consisting of mere Cubes aptly and conveniently disposed and connexed, that looking this way and that way tear, divide and perforate the Membrane of the Guts, and so produce an Ulcer of the Guts, which Particles were preexistent in the Mass of Blood, and often are precipitated to the Guts.

§. 11.

WE in this Disease blame the sharp saline Particles of the Blood, namely the salvage Salts, which do not well accord, yea, the saline Dregs, that often stick in the first ways, which according to Cartes are pointed, to Willis sulphureo-saline, to the Ancients bilious, pituitous or serous Humors, or according to the Chymists mercurial and arsenical Particles, especially in a more malignant sort where Spots are observed, helleborine and colocynthiack Particles, which offend the Guts, vellicate and break their Fibres, and at length tear their Coat. For the Arteries and Veins are often so dilated and broken in their extremities by a precedent *orgasmus* of Blood, that they pour the Blood into the Guts. Without doubt a corrosive Acid predominates about the Guts in this Disease, whence that fordid Ulcer is produced: But

I opened two that died of this Disease, and found no Ulcer in their Bodies, but the *intestinum rectum* gangrened. For all Humors, saturated with this strange Acid, by their corroding Faculty penetrate the inner substance of the Guts, dilacerate and erode their Glands, bring forth Blood, and cause an intolerable pain in these orbicular, sensible Fibres, so that sometimes a Gangreen and at last death follows. This Disease therefore may easily be contagious by reason of malignant, arsenical, that is, corroding taints, which exhale, infect another Man's Mass of Blood, and so communicate this disposition to the Guts. For saline Particles may easily acquire a heterogeneous, malignant and eroding nature, which may impress such violent Tortures on the Guts, and so may infect the whole Body with this vicious taint, by benefit of Circulation. An epidemick Dysentery arises from an Air infected with subterraneous exhalations. The procatactick cause of a Dysentery is chiefly a bilious intemperature, and an infected Air.

§. 12. Prognostick.

IT is a dangerous and an acute Disease, and the Prognostick uncertain. A malignant Dysentery is worse than a benign one: for it has a Fever with it. *In long Dysenteries loathing of ones Meat is bad, with a Fever worse, if little Lumps of flesh, as it were, be voided, it is mortal* according to Hippocrates, *f. 4. aph. 26.* Raggy Excrements also are reckoned for a mortal Sign. And as Hippocrates says *2. præf. 23.* This Disease is worse for old Men and Children, than for middle aged Peo-

ple. He that voids pure Blood, with continual and momentary Stools, Anxiety of Heart, cold Sweat, Watching and immoderate Thirst, is in a hopeless condition, as I have observed several times. If the small Guts be exulcerated, there is more danger; and they are more difficult to cure than the large; because they have more subtil, nervous Fibres, and more Vessels, which pour out abundance of Blood, and cannot so easily be united; yea such Ulcers are oftentimes Mortal. Hippocrates also declares, That a Dysentery from black Choler is mortal. I have often observed Worms come up at the Mouth, and the greatest part of them died. If an Hiccough or Vomiting supervene, it is a bad Sign, for it argues much sharpness, which causes Convulsions. If the Patients faint often, and they have the Hiccough, it is a very bad Sign. This Disease sometimes finishes its course in fourteen Days time, sometimes it lasts six Weeks, and for all that the Patients dy. A Dysentery, which is attended with greater Symptoms, Heart-burn, Fever, loss of Appetite and Spors, threatens more danger. If sleep be wanting, it denotes an excessive sharpness in the Mass of Blood, so that the Acrimony reaches the Membranes of the Head, where it causes Watching by raising Vellications. If one lose his Senses, the Case is as bad: for it signifies an intense Fever.

§. 13. Dietetick Cure.

NOW we will hasten to the Cure. The Method for curing a Dysentery is this. First, there must be a course of Diet. The Air there-fore

fore must neither be too hot nor too cold, but temperate. For an over hot Air sharpens the Bile (which, according to *Sylvius*, consists of much lixivious Salt, a little Water, Oyl and Spirit) whereby the Blood is filled with these saline Prickles, and it makes its way into the sanguiferous Vessels of the Guts. Sometimes impure and malignant Taints, consisting of a sharp, volatil Salt fly up and down the Air; whence this Disease often arises, and then it is called malignant or epidemical, especially where the saline Prickles are exalted to a higher degree, and rendered as it were arsenical, which must carefully be avoided. Cold also must be fled from; because it contracts the pyramidal *papilla*, that are in the Skin, and the numerous Excretories arising from the miliary Glands, either lying under the Skin, or interwoven with it, and then not only sensible Sweating, but insensible Transpiration ceases. And when these excretory Tubes are obstructed, the Serum in the Body is daily encreased, and sharpened; which appears from the greater slipperiness of the Belly, which comes upon the stoppage of these Excretory Passages. Therefore we must take great care, that in every Dysentery the Pores and Passages of the Skin be kept open as much as possible, and that the Body be continually disposed to a gentle Sweat, by which very thing these enormous Loosenesses are not a little stopt; and if there be a Fever withal, it is also successfully cured by Sweating. The Air also in the Chamber must be purified, as in the Plague.

The Meat must be of good Juice and easy Digestion, such as Barly,

Prisn, Eggs, Rice, Oatmeal-Gruel, Broth of Mutton or Veal boyled with Endive, Purslain, &c. On the contrary forbear Meat, that is salt, raw or smoak-dried, but especially horary Fruits, such as Plums, Apples, Pears not ripe, Grapes, Nuts of divers kinds, Pulse, Cucumbers, Melons, Pumpions, and things of the like nature. And here also all sweet sugared things must be excluded, which have concealed in them an Acid, and sharp Poison, which by fermenting do variously disturb the mixture of the Blood, and may easily cause this Disease. On the contrary, as we said before, all Meat that is temperate, and cridued with a balsamick viscidiry, is good, such as Rice, Barly, &c. The Drink must be Chalybeate. Yet we must take notice, That new Steel ought not to be taken for Astriktion, because it rather opens, but it must be often quenched before: for the oftner it is quenched, the more it binds. A Decoction also of Barly is good with shaved Harts-horn, Tormentil-root, and dried Quinces; or a Decoction of Mastich, Deer's Pizzle or a Bulls; or for some Patients an Emulsion of sweet Almonds made with Chalybeate Water; or red Wine diluted with some Decoction, but by all means avoid strong and generous Wine, Sack, Brandy, &c. for by the excessive use, or rather abuse of Wine, great and unusual Fermentations and Disturbances are produced in the Blood; and so the extremities of the Veins and Arteries are dilated and broken by the violent Motion and Turgescence of the Blood, whereupon the Blood flows in greater quantity into the Guts. Therefore here you

you must be careful, otherwise you kill your Patient.

Rest must here be advised to.

Sleep also, if it come not of it self, must be procured: for the Flux is further irritated by Motion and Watching, the Blood is made sharp, and the Exulcerations are exasperated; on the contrary by Rest and Sleep Fluxes are stoppt, Pains are eased, Strength is recruited; so that we may say with *Ætius*, Sleep is the only relief for People in Dysenteries.

Let the *Passions of the Mind* be moderate, for by the excess of them the Spirits are made violent, and by consequence the Blood is sharpened. We must therefore take care of Anger, for it sharpens and inrages the whole Mass of Blood. Keep the Mind as cheerful as may be, because by cheerfulness the Animal Spirits are carried pleasantly through the Nerves, which keep the Mass of Blood and other Humors in a gentle quiet frame. Physicians therefore do ill, who at their first coming denounce great danger to their Patients, which makes them sad and timorous, and this encreases their Disease, and hastens their death.

The *excreta* and *retenta* should be as they ought to be. The Excrements should not be various: For it argues, That the Humors part one from another, which is a bad Sign. The Patient also must have a care of his own Excrements. A little of *Digby's* sympathetick Powder may be strewed on them, or the Patient may go to Stool over the *caput mortuum* of Vitriol of Mars, which has a magnetick and an admirable virtue in curing a Dysentery, as D. Michael in the *Miscellanea curiosa*, relates.

§. 14. Pharmaceutick Cure.

These things being premised concerning the Diet in this Disease, the next thing is to describe the Method, whereby its Cure may be performed aright. We will therefore begin with the *Præcursors*, whose Method of Cure is this following. In the beginning both they and the Moderns hold, the Flux should not be stoppt, but first of all they purge the Body, they wash the Guts with Clysters, first with abstergent ones, then with such as temper the violence of the sharp Humors; last of all they give astringent ones, and add such Medicines as are proper to heal and cicatrize. I have no mind to give you any Receipts, because abundance of Books are full of them. They give Evacuators also by the Mouth, such as Rhubarb, Tamarinds, Myrobalans, Syrup of Roses solutive, of Cichory with Rhubarb, &c. After these they use Avertents, to wit, Bleeding, Frictions, Ligatures, Baths, &c. Then they conclude the Cure with things to stop the Flux, and strengthen the Stomach and Guts. And because there are above a thousand Astringents, we will not set down any; beside what are confirmed by experience, which any one may see hereafter, when we give our own Judgment. They order also divers external things, they apply Baggs of divers astringent Herbs and Roots to the Belly; they make divers astringent Liniments, Plasters and Cataplasms; they advise also to guard the Stomach, seeing it may suffer by consent, yea, it may occasion the Disease. Neither

ther would they have the Symptoms neglected. They therefore ease pain by Anodynes, and when these will do no good they fly to Opiates, to wit, *Philonium Romanum*, *pilula de cynoglossa*, *requies Nicolai*, and Treacle. They quench thirst with Juleps made of sowre Juice of Pomegranates, Currans, &c.

§. 15.

THE Chymists have excellent and approved Remedies in this Disease; and they observe the following Method; at first they do not give Purgatives, but Diaphoreticks: for they think, That in a Dysentery there is always something poisonous. They therefore make a pestilential drink, they give Treacle-water. After the Poison is expelled, they give some comfortable binding thing, made of *crocus Martis*, Coral, *terra sigillata*, Bloodstone, Plantain, Shepherds-purse. But their highest strengthener they seek in Gold, *laudanum perlatum*, Oyl of Mars, Treacle, Mummy. They prefer Tincture of Coral and Emerauld before all others, nor do they condemn all these Medicines that are taken from Virriol and Mars, such as *tartarum vitrioli anodynum*, *tinctura Martis astringens*, *crocus Martis*, *panacea solaris Wildegansii*, and a thousand other things, which you may meet with here and there.

§. 16.

Helment commends the Blood or Runnet of an Hare, which appeases the rage of the *Archæus*, also a Horses hoof, but not luxuriant, otherwise it would do much harm. He thinks also, That the

Yolks of two Eggs hard, or true *laudanum* without *Opium* will still the rage of the *Archæus*. He holds, That these things likewise do appease its rage, Rhubarb, Quince-Wine, Pomegranate-Wine, Chalybeate-Water with toasted Bread and Nutmeg, Emulsions, Opiates, Clysters of Chalybeate Milk, &c. Externally he highly commends a Weather's Cawl fried in Oyl of Roses and applied.

§. 17.

Ullis his Method of Cure is this following. At the first he stops and moderates the Flux a little by the following or some such Medicine;

Take of Conserve of red Roses vitriolated two Ounces, *Venice Treacle* one Ounce, Powder of Root of Tormentil, *contrayerva*, Pearl, Coral prepared each one Drachm, Syrup of Roses what is sufficient. Make a Confection. Let the Patient take the quantity of a Chestnut every four or five hours, drinking after it three Ounces of the following Julep.

Take of Water of Mint, Bawm, Cinnamon, Barly each four Ounces, Treacle-Water two Ounces, Pearl one Drachm, Sugar one Ounce. Mix them.

Or he may take this following;

Take of *Venice Treacle* one Drachm, *laudanum liquidum cydoniatum* fifteen Grains. Make a Bolus to be taken at the hour of rest.

Within

Within a day or two after let the Patient take a purging and binding Medicine;

Take of the best Rhubarb two Drachms, Citrine Myrobalans one Drachm and an half, red Saunders, Cinnamon each one Scruple. Make an Infusion for a Night in as much Plantain, and Barly-Cinnamon-Water, alike quantities, as shall be sufficient. Make a strong expression; to which add of Cinnamon-Water two Drachms and an half. Make a Potion.

Every Evening he gives a good Dose of *Laudanum opiatum*, and he never knew this Medicine hurt any Body in the Bloody-flux; either because the narcotick quality of the Medicine is conquered by the acid Juice of the Stomach, or because its Particles, that are transmitted to the Blood, are presently cast off again with the Bloody Stools, so that they cannot hurt the Brain; as he says, in his discourse upon the *London Dysentery*.

He also commends several Powders, made of astringent and strengthening things, compositions of which you may find in his Books. To cure the Gripes and Erosions of the Guts, he uses Clysters very frequently.

Take of the Decoction of *St. John's-wort* tops, with Sheeps-feet or Cawl eight Ounces, *Venice Treacle* two Drachms, Oyl of *St. John's-wort* half an Ounce. Mix them.

You may see more in his Treatise of the *London Dysentery*.

§. 18.

Sylvius thinks the cure of this Disease, consists in the correction and evacuation of the peccant Humors, cleansing of the Ulcer, healing of the Vessels and the Ulcer, and in binding the excessive Flux. Among Remedies, that temper a saline and acid Acrimony, he magnifies volatil oylly Salts, which temper an acid Acrimony, and by reason of the Oyl dull the Acrimony of the Bile; for which end he commends Emulsions, made of the Seeds of Poppy, four greater cold Seeds, and some distilled Water. When the Acrimony is a little corrected, he advises to purge it off by a small quantity, that is, half a Drachm or a Drachm of roasted Rhubarb, to the end, that when the evacuation is over, the Belly may be a little more bound. If there be occasion, a little *mechoacan* or *Jalap*, may be given in form of a *Bolus* with a little *diascordium*, or in infusion in Plantain-water, with Syrup of Roses solutive. Then Medicines will be proper which concentrate and soak up an Acid, such as Coral, Crab's-eyes, Chalk. Also for the better consolidating the eroded Guts, and their Vessels, he advises Dragon's-blood and Blood-stone. He absterges and heals the eroded Guts with Clysters of Cows Milk, *Venice Turpentine*, the Yolk of an Egg and Honey of Roses, which he advises to be often given. To which end new Treacle, and the Author's *diascordium*, taken in a small quantity, are efficacious Medicines. Then for healing of the Ulcer he prefers *Balsam of Peru*, *balsamus sulphuris anisatus* or *succinatus*, or *Turpentine*, before others. Here

Here also in pertinacious and urgent pains, he advises use of Opiates. And there are divers externals, both Liniments and Cataplasms made of Paregorick, Anodyne, Astringent Medicines, which he would not have neglected.

§. 19.

According to the Cartesian Principles this Disease may easily be cured by Medicines that temper the sharp humors, and by Evacuators. First of all therefore about one scruple of Rhubarb may be given, and the use of it may be continued for some time, for after gentle purging it binds moderately. Emollients also, Lenitives, and things that help fermentation, may be used. To qualify the Humors, a Decoction of Barly is good, and a little Gum Tragacanth may be added to the Decoction, or some Gum Arabick, or roasted Rhubarb. The following *Bolus* may be of use;

Take of new Treacle one Drachm, with which you may sometimes mix of *laudanum opiatum* one Grain, and sometimes of Camphore three Grains. Make a *Bolus*.

Afterwards gentle Astringents may be used, such as Marmelade of Quinces, Conserve of Roses, &c.

Take of Conserve of Roses three Ounces, *diacydonium simplex* two Ounces, preserved Nutmeg one Drachm, *species diarrhodon Abbatis* half a Drachm. With Syrup of Coral what is sufficient, make an Electuary. Of which he may often take the quantity of a Nutmeg.

Coral is also good here, because it restores the fermentation of the Blood. Among Externals divers Emollients and Astringents may be made use of, which we shall abundantly mention hereafter.

§. 20.

WE encounter this tyrant with a purging Medicine, unless the Enemy make his approaches privately and cunningly; for then we rather chuse to give Sudorificks and Alexipharmacks. In the beginning of this Disease, we should, in my Opinion, diligently observe, That we bind not too much, before the sharp Particles, that are mixt with the Humors, be evacuated, and well tempered; otherwise you will but try in vain to bind. For Astringents will not then do the business, but Nature will sufficiently bind, when she is rid of the sharp Matter, because what is heterogeneous ought to be evacuated, otherwise the Patient will relapse. Therefore about half a Drachm of Rhubarb may be often given in a solid form (which after gentle purging binds a little) or if there be occasion, and there be a great quantity of *Serum*, I usually give, to good advantage, a little *mechoacan* or Powder of Jalap. In Children a little Syrup of Cichory with Rhubarb and Cinnamon-Water will be good. An abstergent Clyster may be also given of a Decoction of Barly with Seeds of Plantain at the first, and Conserve of Roses with the Yolk of an Egg; the next day we give Syrup of Roses with Rhubarb, adding half a Scruple, or a Scruple of Rhubarb in Plantain Water.

Our Shops have the following Powder;

Take of Rhubarb moderately toasted six Drachms, Mechoacan, *Chebuli* Myrobalans toasted each half an Ounce, Nutmeg four Scruples, Mace two Scruples. Mix them. Make a Powder. The Dose one Drachm.

When the Enemy is repulsed, we proceed to moderate Astringents and Mitigators; among which these excel, divers Oplates, terreous, subacid, testaceous, chalybeate and glutinous Medicines. I have a mind, for the sake of young Physicians, to set down some Compositions of these Medicines. By which Medicines (I can say it without boasting) I have often put the Enemy to flight; especially by this one I cured above an hundred, when the Plague was epidemick, to wit, Oyl of sweet Almonds drawn without fire, mixt with Juice of Citron, and taken often in a day; continued for several days, but first giving toasted Rhubarb.

Among Electuaries I have often used this following, with good success;

Take of old Conserve of Roses two Ounces, *Venice* Treacle one Ounce, *diacydonium simplex* one Ounce and an half, *species diarrhodon Abbatis* half a Drachm. With a sufficient quantity of Syrup of Citron make it into an Electuary.

Or an Emulsion may be made of a Decoction of Plantain Seeds in Barly-Water, sweet Almonds, and the four greater cold Seeds.

Others spread Oyntment of Ro-

ses on toasted Bread, and sprinkle upon it of Powder of Nutmeg, Mint, Mastich, red Roses each half a Scruple, Camphore three Grains.

Some commend Crystal by itself, because a certain æthereal Matter flows through its Pores, which restores the Fermentation of the Blood.

Some like the *lapis bezoar orientalis*. Others are for half a Scruple of Extract of Coral in Plantain-Water. The following Emulsion often attained the desired end;

Take of the four greater cold Seeds each two Drachms, white Poppy three Drachms, Plantain one Drachm, sweet Almonds one Drachm. With Water of Quince juice, Leaves of Oak, Plantain each two Ounces, make an Emulsion. Add to it of *terra sigillata* half a Drachm, Cinnamon-Water one Ounce, Marmelade of Quinces half an Ounce. Mix it for several times.

For stronger Astriction (which nevertheless we must have a care of) *crocus Martis astringens* is good, or the *caput mortuum* of a Bloodstone, or any sealed Earth, because it contains something of a Metal in it, whereby it opens and binds gently: this will be good, where there is any malignity. *Floris Martis* and prepared *crocus's* are good; for they temper with a little astriction, and also open.

To heal and mitigate, the following or some such Clyster may be given;

Take of Flowers of St. John's-wort, Pomegranate Flowers, Leaves of Sanicle, Plantain, Comfrey each one handful, Root of Bistort one Ounce.

Ounce. Boyl them in a sufficient quantity of Chalybeate Milk or Water, adding some Goat's Suet. Or if you have a mind to glutinate more;

Take a Decoction of a Sheep's-head and feet, *Venice Turpentine* dissolved in the White of an Egg and Balsam of *Peru*.

And if the Pains be very urgent, one Grain or two of *laudanum opiatum* may be put into Clysters, but we must never go higher. I remember an example of one, who had a Clyster given him by an Apothecary, in which a Scruple of *Thebaick Opium* was dissolved. Upon which the Patient died presently of an Apoplexy. Nor are Oyls good in Clysters, because they contain much acid in them; or saline things: But a drop of *balsamus sulphuris tartarizatus*, or *anisatus* may very well be added to a Clyster. Yet Sudorificks must always be given between whites, and Bezoarticks and camphorated Medicines: for I ever suspect something of malignity in this Disease. Among which *tinctura simplex*, *camphorata*, &c. are excellent. Now by Bezoarticks the strength of the malignity is broken, the Blood is restored to its perfection, the Acrimony of the Humors is soaked up and corrected, also every foreign Ferment is driven out by insensible transpiration, the Fever it self and the Contagion is taken away by the root, and at length wholly extirpated, and in a word, the whole Kingdom is restored to its pristine liberty. If therefore the Patient after he has gone often to stool find any relief, we must insist only on Alexipharmacks: for

instance, *pulvis bezoarticus pretiosus*, *Pannonicus ruber cordialis*, *pulvis bezoardicus wedelii*, *Hoffmanni*, *tinctura bezoartica* mixt with anodyne Essence, are found by good Experience to be excellent. For so the malignant Taints are dissolved, and the Acrimony of the Humors is taken off.

In Dysenteries without pain we must have a care how we use Opiates. For in this case Bezoarticks must needs be better; as I observed by sad experience in Mr. B. a Councillor of *Nassaw*, who upon drinking the Waters at *Swalback*, fell into an indolent Dysentery, and took of an Apothecary upon whom he relied much, a certain mixture, it may be with too great a Dose of *laudanum opiatum* mixt with it, and so the next day he slept his last. See *an. 2. ephem. German.* And the saying is in this case true, that it is worse to have no sense of pain, than to be in pain. Consult in this case *Minadous* a Doctor of *Padua*, who observed that all Dysentericks, who by the advice of their Physician took *Opium*, died for it. *Hoffmannus* gives a reason, *de usu & abusu medicamentorum chymicorum* p. 30. because the Ulcers of the Guts are made more putrid and foul by the *Opium*. But, to confess the truth, we, as well as *Willis* and *Wedelius* (who tells how he cured above five hundred People with Opiates, *Optolog.* p. 122.) make bold to affirm, That scarce any true Dysentery can be conveniently cured without Opiates, and that the labor is lost in Astringents; but they ought to be mixt with volatile Bezoardicks in the beginning, or rather in the middle, and with more fixt ones in the end. If any one desire authority, let him read

Bacchius in his Notes upon the fourth Chapter of *Garzias ab horto. Horstii consil. dysenter. c. 3.* The illustrious *Boyl* uses to give Rhubarb with a Grain of *Laudanum*, and then a Milk Clyster. *Burrhus* in a letter to *Bartholine* testifies, That there is not a more present Remedy for dysenterick People than Rose-water, wherein Gold has been several times quenched. When we must bind, the famous styptick Liquor exceeds all, which is made, not of Vitriol, as some have been falsely perswaded, but of a Martial earth impregnated with a magnetick Water, as the excellent *D. Waldsmidius* knew very well in *Fundament. Medicin. ad mentem neotericorum delineat.* Here follows a styptick dysenterick Powder;

Take of *panis sambucinus*, Root of Tormentil each two Ounces, Bole Armenick, *terra sigillata*, Emerald prepared each half an Ounce, Nutmeg two Drachms, Harts horn prepared without fire three Drachms. Mix them. Make a subtil Powder.

Mebius advises to this dysenterick Powder;

Take of Powder of Blood-stone one Ounce, burnt Harts-horn, *crocus Martis* each half an Ounce, Magistery of Coral made with Citron Juice one Drachm, *medulla lapidis* one Drachm and an half. Mix them. Make a Powder. The Dose one Scruple.

If there be malignity, he adds the slough of Snakes. I should advise Spirit of *terra sigillata* mixt with other Medicines. Tincture al-

so of *Catechu* and its *terra mortua* will do good.

External Topicks designed for the Gripes, and Paregoricks have also their use. Abundance of things are commended by Authors: we shall here give you the most select and approved. And *Kesslerus* commends *Venice Treacle* half an Ounce and Vitriol of *Mars* applied to the Navil. *Crollius* and *Agricola* mix *terra sigillata*. We put *theriaca celestis* or *laudanum opiatum* into the Navil. Some use this following;

Take of Bread toasted, besprinkle it with Vinegar of Roses what is sufficient; foment the Belly.

Brunnerus in consiliis Medicis commends externally a Cataplasim of the Crumb of Bread and Tormentil Roots boyled in Wine or Vinegar to the consistency of a Pultels. Also our balsamick mixture of Chocolate, &c. applied to the Stomach will do good, because it often suffers by consent.

Borellus magnifies Goose grease applied to the Soles of the Feet. A Plaster of Bole, which has any thing Martial in it, applled all over the Belly, is very astringent. The Cawl of a Sheep or a Calf, applied to the Belly while it is hot, will ease the Gripes. And here Prince *Rupert* his Unguent of Toad-flax and Oyl of Balsam-Apple is good, if the Back-bone be anointed with it. Bags of paregorick Herbs, and other things, as there is occasion, may be applied to the Belly.

If a *tenesmus* be troublesome, besides *Mynsicht's* fumigation with Tap-

Tap-mullein, Wedelius his approved Powder made of burnt Hartshorn, Mastich subtilly powdered, &c. will do good: And there is an Unguent, which can never be sufficiently commended, made of fresh Butter with fine Powder of *lapis scissilis*, with which part of

the *intestinum rectum* may be anointed, whereupon the Acrimony and Pain presently cease. The *intestinum rectum* may be fomented also with warm Milk. And Prayers, the best of Medicines, must frequently be used.

C H A P. VI.

Of the Iliack Passion, or Twisting of the Guts.

§. I.

THIS Disease is called *Iliack* or *εἰλεός*, either from the Part affected, that is, the Gut called *Ileon*, or from its Symptom, *στρέψαι* *εἰλεῖν*, from turning or twisting, because it is believed, That in this Disease the Guts are twisted. It is also called *Chordassus*, which signifies the stretching of a Chord, from the likeness of it; for if you lay your hand to the Belly, you would think you felt a tight Chord. Some call it *volvulus* or *convulvulus* from the twisting of the Guts. Some call it a *Vomiting of the Ordure*. Others name it a *Disease of the small Guts*. Some account it a *sharp Torment, an excess of the Colick*. The followers of the barbarous Physicians, and the Vulgar call it *Miserere mei*, by reason of its violent and most exquisite pain, and because it is a Disease that deserves commiseration; so that they who are afflicted with it, may well cry *miserere mei*.

Description.

This Disease is defined to be, a most bitter pain of the small Guts, with a pernicious Obstruction of

the Belly, and a troublesome ejection of the Ordure by Vomit, arising not only from the straitning of the Guts; but also from their Convulsion. Where *Brassavolus* says well, that for two and twenty years of his Practice, he never met with the Iliack Passion without Vomiting.

Division.

The Colick pain is distinguished from the Iliack Passion, because in the Colick the large Guts, but in this the small are affected. We reckon that this Disease may be bred, as well in the large as in the small Guts, because there may be a Convulsion in all of them, and so the peristaltick Motion may be inverted. For Nature has endowed these Parts with various windings and turnings, and hath found out a peculiar peristaltick Motion for the Guts, whereby, that which otherwise could ly still, is by the help of Animal Spirits, flowing into the Fibres of the Guts, put forwards; and what is unprofitable, is expelled; which Motion is made by means of the Fibres (and every Coat has abundance of them) which one may behold with ones Eyes

Eyes in the Belly of any Creature opened alive; and I have often beheld these Motions with delight, like Snails creeping on the ground. The Guts therefore seem to have a kind of waving Motion, like that of Leeches, Worms and other creeping things; yea, oftentimes, when I have cut open Creatures alive, I have seen the Guts strain with a waving Motion, and drive the Chyle and Excrements downwards, as if they had been stript through a narrow ring. The like Motion also is ascribed to the Wombs and *scrota* of Animals; but especially to their Stomach, by *Thomas Cornelius Consentinus pro-gymn. 6. de nutritione p. m. 234.* in these Words: *One may observe the like Motion also in the wombs and scrota of Animals; but this Motion appears nowhere more than in the Stomach, which though outwardly it be obscure, yet in the inside, it is not only rationally concluded on, but one may behold it with ones Eyes. For upon cutting open the Stomach of a Creature quickly, a frequent and various Motion is perceived. And the reason of this tremulous Motion, is, because there are Animal Spirits still in the Fibres, and then they betake themselves to flight, wherefore this tremulous Motion remains still; which one may observe also in the Heads of Oxen or other Beasts, that are new killed, where the inner Fibres of the Neck are a while in Motion, which I also saw in a Man, who was beheaded.* These things I was willing to premise, as worth the knowing. That the cause of this Disease might better appear, of which we shall treat designedly hereafter. Now Practitioners take notice of three sorts of Iliack Passions. One is Stercoral, which has its rise from the Ordure and Superfluities of Meat, which

should be voided by Stool. Another is Humoral, which is caused by a thick, viscid Humor, fixt in the Guts, or by a sharp and corroding one. Another is Flatulent, which arises from Wind pent up, which seeks a Passage by violence. All which things the following case will in some measure declare.

§. 2. *A Case.*

While I was Physician to the Princess of *Nassaw*, Daughter of the Prince of *Orange*, I met in my Practice with a Noble Maid, N. P. who had been for several Months troubled with Costiveness, a *tenesmus* and Fits of the Mother, without doubt, through Grief for the death of her betrothed Husband, who was slain in the Wars, who thereupon grew Melancholick, so that she went not at all to Stool, she had a dull tense pain in her abdomen and *hypochondria*, and her trouble was such, and the distension of the abdomen so great, that for very pain she could not rest in her Bed. There succeeded loathing and enormous Vomiting, at first indeed of what she took, afterwards of divers things contained in her Stomach and Guts, especially a viscid and tough Humor, and last of all, of putrid and corrupt Chyle, quickly attended with Swoonings and Convulsions. Yet (praise be to God) the Patient was restored to her Health by the Medicines hereafter mentioned far sooner than was expected.

§. 3. *Part affected.*

The Part affected therefore is by the consent of all Authors, reckoned to be the *Ileum*, that small Gut, which as it is the last among the Guts, so it is the longest,

Twenty hand-breadths in length, and but about an inch wide : wherefore it is narrower than the rest, and for that reason, they say, it is the more apt to be inflamed, following *Galen's* reasoning l. 3. *de facult. natur.* If one vomit Ordure (says he) you have a most certain Sign, that the small Guts are affected. We, as was said before, do take the large as well as the small Guts for the Part affected : the reason is, because the thick, as well as the small, are capable of a peristaltick and convulsive Motion, yet so, as that in this Disease the *duodenum* is very rarely affected, the *jejunum* seldom, the *Ileon* most frequently. But I am perswaded the large Guts are seldom affected : for I have observed the Iliack Passion twice from an Inflammation of the *Colon*, which *willis* also observed. There is one wonderful thing that I have observed; a Woman in a Village of *Hanover*, called *Mittelbuchen*, has had an Ulcer in her large Gut for three Months and upwards, which slipped out of her Belly into her Groin. It is eaten and looks black, the Excrements are stinking, without Vomiting, or any other Ail; she is yet living miserably, and is in the hands of a very skillful Surgeon, called *Wedling*.

§. 4.

PRactitioners mentions abundance of Signs, which declare the Iliack Passion, the chief of which, and the most necessary to be known, I shall here set down. They are bound in their Bellies, and we hear them always complaining of Costiveness, so that though they strain never so much to go to Stool, they cannot force any Ex-

crements out. Which *Galen* confirms, when he says, *In the Iliack Passion nothing goes downward.* And *Hippocrates* knew of old, That costiveness was an inseparable property of this Disease, where he says, *When the twisting of the Guts takes any Man, the Belly grows hard, and nothing passes downward.* There are also great Belchings and Rumbling of the Guts, at first they find a pain at their Stomach, Reaching and Loathing and Heart-burn. Wind torments them, and stretches their Belly; and there is rarely an Iliack Passion found, which is without Wind, as experience testifies. When the Disease encreases, the Pain is exquisite and intolerable, and the Patients feel a fixt and permanent Pain in one or more places, and that either very heavy, or tense, or burning and throbbing. Sometimes there is a notable Tumor in this at that place of the Belly, which one may even feel with ones hand. In the progress of the Disease there are enormous Vomiting, and such, as not only bring up the Meat and Drink, and Humors very various in regard of their Causes; but the Chyle and sometimes the very Excrements, death quickly ensuing upon a precedent Swooning. *Solenander* conf. 16. l. 5. testifies, That Clysters have been vomited, and Suppositories also; a wonderful instance whereof *Sennertus* gives *Medic. pract. l. 3. part. 3. §. 2. c. 1.* Upon which most grievous Symptoms there comes another of the worst portent, the Hiccough. Tossing and tumbling, want of sleep, sickness at the Heart, Thirst, a Fever, Fainting, coldness of the extreme Parts, Convulsions and oftentimes a miserable death attend this Disease.

Let

Let this suffice for the Diagnostick. He that desires to know more, let him consult Practitioners.

§. 5. Cause.

NO understanding Physician will go about to deny, That the consideration of Causes is very requisite for the true Method of curing Diseases. But oftentimes how abstruse this scrutiny of the Causes is, Practitioners to their great grief, do experience. Wherefore, according to our proposed Method, we will first consult the Ancients about the cause of this Disease, who say, it proceeds either from an Apostem, or an Inflammation, or an obstruction of the Guts, which they hold, may proceed either from dried Excrement, or an Humor, or from Wind. And this Disease, according to them, is generally contracted from a continual corruption and crudity of Aliment, for the most part from fat flesh, which has been corrupted, also from unseasonable eating of Mushromes, Shellfish, Beans, Pease, Medlars, Services and other poysonous and corrupt Meats. It may come from excessive drinking of Water that is preternaturally cold, especially if one be in a Sweat. They doubt not, but this Disease may proceed from Worms. And among other procatarctick causes they reckon the abuse of several Non-natural things.

§. 6.

THe Paracelsian Chymists say, That the Colick and Iliack Passion are the same Disease, and that it lies between the Stomach and the blind Gut. And Paracel-

sus himself derives the Matter from a sharp Matter dissolved in the Guts by a pontick Salt; which Matter by its innate pontick stypticity contracts the Guts and twists them. For a styptick Nature closes the blind Gut, and all the Guts, and turns the Excrements sowre and into Wind, and so hurts them by running to and fro.

§. 7.

HElmont thinks not that the twisting of the Guts is a twisting and *apigeum* of the small Gut, because it is repugnant to Anatomy, which shows, That that Gut is cloathed with the Mesentery, for its outer cloathing, and by the Mesentery is tied to the Loins. For, says he, if the Gut were twisted, besides its usual turnings, what should be the mover, with the twister? He therefore thinks, That the *Ileum* can only be obstructed by the internal Excrement, because that, and nothing else can do it; and so he says, the Gut *Ileon* (in which otherwise the Excrements use not to be hardened) is stoppt up by unusual Excrement. He therefore constantly maintains, That this Gut can never be twisted nor loosed out of its case, the Mesentery. Yet he acknowledges that Wind may cause this Obstruction; because in all that died of the Iliack Passion, he ever observed the Gut *Ileum* to be full of Wind. He also relates an Example, *l. de flatibus p. m. 251.* of Thomas Balbani of Antwerp, who offered the Physicians fourscore thousand Flanders Pounds for a Cure; and whereas they blamed the twisting of the Guts, as if they had been tied in a Gordian knot, and held him for incurable;

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curable; he died indeed of the Disease, but when they opened his Body, they found nothing but a little hard Excrement in the small Gut sixteen inches above the blind Gut, and a great deal of liquid Excrement in the *Ileum* above it.

§. 8.

AUllis in this sad Disease thinks, That the carnos Fibres of the Gut are hurt by an Inflammation or Gangreen of the small or large Gut (as he observed it in the *Colon*) because in opening of several, who died of the Iliack Passion, he always observed that an Inflammation or Gangrene was almost in all the cause of their Disease and Death. Whereupon the Excrements restagnating towards the *Ileum*, do generally cause an incurable Iliack Passion. For, according to him, Contractions are caused, inasmuch as the Animal Spirits start out of the tendinous Rimb of the Mesentery into the carnos annulary Fibres, and out of the tendinous Fibres of the outmost Coat into the carnos longitudinal Fibres, both which they do so puff up and tumefy, that of necessity they must be shortned and contracted. For in a tender and very sensible Membrane, the Animal Spirits may raise continual and cruel Spasms and painful Corrugations, so that the peristaltick Motion of the Gut affected, whereby the Excrements of the Belly are forced downwards toward the *anus*, may be hindred, and quite inverted thereby.

§. 9.

Sylvius does constantly maintain, That in this Disease the Motion of the small Gut is inverted, with a vomiting of the Ordure ensuing. Because in opening those, that died of this Disease, he found the cause to be a Gangreen of the small Gut, and so great a Corrugation and straitning of the corrupted Gut attending it, that all passage of the Excrements downwards was stopt, yea, and that they were forced to a return upwards, and so to a miserable discharge by Vomiting. Another cause he thinks to be the slipping of the lower part of the Gut into the upper, or of the upper Part into the lower, and indeed by Wind forcing the Gut thither. But that the Guts are tied on a knot, or tangled, as some Practitioners hold, he utterly denies, and gives some reasons, why he does so.

§. 10.

And so the Cartesians deny the twisting of the Guts, and think that one Gut cannot slip into another, because they are all knit to the Mesentery, and they rather think, That the Iliack Passion arises from sharp Humors residing within the Membranes of the Guts, whereupon their expulsoy Motion is often inverted, because the Animal Spirits being excited by a certain irritation, flow into the ascending Fibres of the Guts, by which inverted Influx the Contents are only forced upwards. They judge, That this Irritation happens in this Disease, either from an Inflammation of the Guts, or from their Obstruction

struction by hard Excrements, or from their Compression in a Rupture.

§. II.

We judge, That in this case there is not only a straitning but a contraction of the Guts. Wherefore we may well doubt, whether this Disease can have its rise only from the hardened Excrements, with sharpness, because a Gut will extend strangely. Wherefore we think the cause of the Obstruction of the Belly, of vomiting the Vi-
tuals, and sometimes the Excrements, and of the violence of the Pain, as Symptoms of the Iliack Passion, to be generally an Inflammation of the Gut *Ileum*, which offends the Animal Spirits: For when they are too weak for this affair, they cause a convulsive Motion, and by their *orgasmus* or rage in these tender orbicular Fibres, do not only straiten them and invert the peristaltick Motion, by rending them, cause most cruel pain. And sometimes a straitning of the Gut by the Humors continued among the Coats, when the Excrements, especially if they be hard, cannot pass, may be the cause of this Disease. For the Guts so affected by the Animal Spirits are compressed after an unusual manner, and are vellicated and convulse by the Humors lodged between the Membranes of the Guts, and made sharp. For in some the inner Coat of the *Colon* is so tender and sensible, that upon taking a Clyster, though it be anodyne, the Spirits are immediately intrag-
ed, and being exploded among the nervous Fibres, puff up and distend the Membranes, and so create great

trouble all over the Belly. No^h wonder therefore, if partly through the Convulsion, partly through the stoppage of the Gut by hard Excrement, nothing can pass downward, and whatever is taken, and sometimes the very Excrements, are brought up. Which Excrements use to ascend, not out of the large Guts (because the Valves hinder the ascent of the Excrements) but out of the small Guts.

If therefore this Disease arise from an Inflammation, then there is an acute Fever; but if from Wind or any other Obstruction, then no Fever attends it: The pains from Wind are not so fixt, but that they may easily be dissipated. We believe also, That sometimes the Juice in these Glands of the Guts does so degenerate from its own nature, that it turns austere and pontick; whereupon the Guts are most closely straitned, from which straitning we do not question, but this Disease may often arise. Which opinion of ours the opening of three Persons, who died of this Disease, does confirm, in whose Bodies nothing could be found but a little straitness of this Gut; and since the Ureters and Neck of the Bladder may be so straitned by an austere Salt alone, why not the Guts? The antecedent Causes, are all such as can produce this Disease, in this case especially a Wind-Colick can do much. Worms entangled in Phlegm, stoppage of the Guts by Caruncles growing to them, or by pressure of the Guts in Ruptures either in the Groin, Navil or *Scrotum*, an Inflammation following. Finally the precatartick cause is the abuse of divers non-natural things, of which we shall speak in the Dieterick Cure.

§. 12.

AS to the Prognostick, this is a most horrible and dangerous Disease, and usually incurable. Hither these following Aphorisms of Hippocrates do relate, *s. 3. aph. 2. and s. 6. aph. 24. They that have the twisting of Guts upon the Strangury, dy within seven days, unless upon the coming of a Fever abundance of Urine come away.* And *s. 7. aph. 10. After twisting of the Guts, vomiting, or Convulsion, or Delirium, is bad.* If they, that are troubled with twisting of the Guts, grow deaf in Vomiting, according to *Coac. 72. and become dumb, it is a sign that heat is almost dead in such.* If Wind in the twisting of the Guts come away by a Fart, and stink much; according to *Forestus observ. 17.* it is bad. If the Belly be so strait, that it will not admit a Probe, it is fatal: for by consequent the Excrements must of necessity be voided by Vomiting. Therefore *Arculanus* does not amiss in calling the death of ileous Persons *cruel and nasty.* To vomit Chyle, bilious, ill-scented, particoloured and black Stuff, according to *aph. 24. s. 4.* is a bad Sign. *Galen* confesses, That to vomit Ordure, is a fatal Sign. If Stink or Worms come up at the Mouth, it is fatal. If Iliack Persons be in a cold Sweat, death is in the port, as *Sebizius* says. A twisting of the Guts from an Inflammation, is desperate.

Every acute pain coming upon old Men, according to *Archigenes* his judgment in *Aetius*, uses to cause death. *Hippocrates l. 3. de morb.* says it ends in death, if a Fever, or Looseness of the Belly supervene: And *Rosfucking* confirms it, who obser-

ved, that a Noble-man fifty years old died of it, who had a Looseness after great costiveness. When it proceeds only from Obstruction by Wind and Excrements, there is some hope of recovery. It is cured and judged by a flux of Urine, according to *Hippocrates s. 6. aph. 44.* Now follows the Cure, and first the Dietetick.

§. 13. *Dietetick Cure.*

THe method of Diet consists in the moderation of the six Non-natural things, which must be varied according to the variety of the cause from whence the Disease arises. If therefore it arise from an Inflammation, chuse a cold Air, let the Patient sleep towards the North. If it be not such by nature, it must be procured by Art, that is, the Floor must be strewed with Flowers of Roses, Poppy, Water-Lily. If the Disease arise from Obstruction of the hardened Excrements, chuse a moist Air, and avoid one that is dry and too hot.

As to *Meat and Drink*, the Patient must be sparing: for as other Diseases of the Guts admit of a thin Diet, so we reckon it proper here especially. For the main stress of the Cure depends on abstinence. In an Inflammation the Victuals must be cooling; when the Excrements are hardened, it must be softning. Above all things avoid cold, crude, flatulent, salt and fat things, which may encrease the Inflammation. Barly-Cream, Chicken-broth, &c. are good. For the ordinary drink we recommend a Decoction of Horse-dung, that is, if the Disease proceed from hardened Excrements without Inflammation, because Excrement expels Excrement. For the

the more delicate divers Juleps, Emulsions, &c. may be made.

Sleep and Rest must here be moderated according to the variety of the cause. In an Inflammation of the Guts sleep is advisable, but in an Obstruction moderate waking must be ordered.

Motion also and *Rest* vary. In an Inflammation and Rupture, *Rest* is best; in a violent Obstruction, *Motion* will be more proper.

Let the *Passions of the Mind* keep mediocrity; let the Mind, as far as the pains will permit, be cheerful. It is requisite also that the Belly be kept loose, that the Urine, Hæmorrhoids and *Menses* pass freely. Hitherto the Dieterick Cure, now for the Pharmaceutick.

§. 14.

THe ancient Practitioners varied their Cure according to the variety of Causes. If the Disease proceeded from hardened Excrements, or from gross and viscid Phlegm, they prescribed divers Emollients and Laxatives both internal and external, as emollient Clysters, externally they applied divers Liniments, Unguents, and Fomentation. They laid the Cawl of a Weather heated in warm-water to the Belly, and they neglected not Baths of emollient things, even of Oyl-Olive alone. They also gave inwardly Oyl of sweet Almonds alone, or mixt with Broth or with White-wine. When these things would do no good, they proceeded to purging Medicines, and those very strong ones. If they suspected the Disease came from Inflammation, they advised Blood-letting, or instead thereof emollient and cooling Clysters. Many of them mightily

value bathing in fresh Water. When pain was very violent, they used Opiates. If the Disease came from a Rupture, their main end in cure was, to put up the Guts again into their place by the hand of a skilful Surgeon: but first they must be fomented with some emollient Decoction or Cataplasm of emollient Herbs and Flowers, yet always promising emollient, anodyne, oily and slippery Clysters. One may have Receipts enough out of Authors, if one be minded to learn out of their Writings. Since generally the main stress of the Cure lies in removing Obstructions, they commend this following purging Decoction;

Take of Leaves of Penny-royal, Broom each half an handful, Roots of Peony, Lovage, Fenil each half an Ounce, Leaves of *Senna* two Drachms, Mechoacan three Drachms, Seed of Anise, Ser-mountain each one Drachm. Boyl them in Flesh-broth what is sufficient, till a Pint be left. Add to the Colature of *Syrupus de diababus* or *quinque radicibus*, what is sufficient for a grateful taste. Give it at several Doses.

§. 15.

THe Paracelsian Chymists, and their chief, *Paracelsus* c. 6. tr. 1. l. 2. *de Tartaro*, rejects the use of Clysters in this Disease and calls them a most vile, absurd and filthy sort of Medicine, since the cause of this Disease is often but one drop of pungent Tartar, sticking in such a part of the Guts as Clysters cannot reach, though he does not deny, but they may sometimes assuage pain by their unctuosity. He also forbids Purgers, and orders, That

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That the Cure be directed to that styptick and pontick thing, which causes Pain and Convulsion, that is, to correct the dissolved Tartar. To which end he advises Oyls and fat things, which obtund both the styptick thing and corrosive Poysons. He commends Oyl of Bays in Clysters; but he says, the most effectual Medicine is the Grease of a Badger, Fox, Ape, Cat, or a red Dog. Externally he commends a *Galbanum* Plaster, or one of Snakes. Inwardly also he gives (as is usual with him) Liquors of Gold and Mummy, in which he asserts the virtue and cure of contracture reside. His Disciples and Followers highly commend Spirit of Salt and of Nitre in the Iliack Passion. They wonderfully cry up Spirit of Turpentine and several other things, concerning which the Chymists themselves may be consulted.

§. 16.

Helmont commends the swallowing of Musket Bullets in drink (the more and the larger, the better) which only by their weight drive forward the hardened Excrement: but they ought to be swallowed as the Patient stands or walks. He advises several other things, which are mentioned here and there in his Writings, and shall be hereafter mentioned in the Collick.

§. 17.

Allis, for correcting the Acrimony of the Humors, which raises an Inflammation of the Guts, and enrages the Spirits, above all things commends this of *Riverius*;

Take of Salt of Wormwood one Scruple. Give it in a Spoonful of Juice of Limons. Or,

Take of prepared Coral two Drachms, Salt of Wormwood a Drachm and an half, Juice of Limons four Ounces. Let them stand in a large Glass. Add of Cinnamon Water two Ounces. The Dose, a spoonful or two twice or thrice a day.

But because the Author does not where professedly treat of this Disease, we are loath to be tedious, and will proceed to another.

§. 18.

Sylvius in this Disease highly commends fat Broths, both drunk in at the Mouth, and given by way of Clyster for the allwaging any Acrimony of Humors, and stopping the irritation of the Guts, to which he prescribes the following Clyster;

Take of Root of Marsh-mallow one Ounce, Leaves of the same, Mallow, Tap-mullein each two handfuls, Seeds of Fenugreek, Line each one Ounce and an half. Boyl them in pure Water. To eight Ounces of the Colature add of Oyl of white Lilies one Ounce, fresh Butter half an Ounce. Mix them. Make a Clyster.

He also commends the applying of Fomentations, made of the same Ingredients, to the Fundament and Belly.

He praises Anodynes and Narcotics to stop that same irritation, and to temper the sharp Humors: for instance;

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Take of French-Barly boyled till it bursts, one Ounce and an half, sweet Almonds, white Poppy-Seeds each three Drachms. With fifteen Ounces of Barly-Water make an Emulsion. Add of *dianthodium* half an Ounce, of Fenil-Water two Ounces. Mix them.

At short Intervals also let the Patient take a few Spoonfuls of the following mixture ;

Take of Water of Plantain two Ounces, Fenil one Ounce, *confectio de hyacyntho*, *alkermes* each half a Drachm, *Laudanum Opium* three Grains, Syrup of white Poppy one Ounce. Mix them.

Now if a Gangreen be already come, and if the upper part of the Gut be slipt into the lower, then the Author reckons the Disease for incurable. But if the lower part be slipt into the upper, then he questions not but that sometimes it may be cured by swallowing of golden or leaden Bullers, with O. l. of sweet Almonds or Olives, or an Ounce or two of crude Mercury. Nor does he slight divers Externals both Liniments, Cataplasms, and other Anodynes.

§. 19.

Cartes his Followers order Blood-letting. If the stoppage proceed from Inflammation, then they administer Clysters of lenitive and asswaging things, that so they may temper the sharp Humors, and make the ways slippery. For the same end they prescribe lenitive Purgers. They advise

also crude Mercury mixt with the Yolk of an Egg, that it may not stick to the Guts. They also admit of Narcoticks, to asswage pain; for they correct the Acrimony of the Humors, and stop Convulsions of the Guts. They likewise commend divers external Emollients.

§. 20.

Our Method of Cure consists not only in restoring the Contrary and inverted Motion of the Stomach and Gut, but also in freeing the Guts from that austere and morbid product, which straitens the Guts too much, and raises Convulsions. For when this is removed the Animal Spirits flow in orderly, and perform a Motion of the Guts agreeable to nature. The thing therefore rightly considered, it is very clear, That the cruel pain which almost kills them that are sick of this Iliack Passion, and likewise the rejection of much Matter by Vomit, are wholly raised by the Spirits falling too impetuously on the Guts and Mesentery, and contracting them; and the rather, because the rest of the concomitant Symptoms in this Disease may easily be explicated by this disordered agitation of the Spirits: For instance, the extreme Parts are cold in this Disease, whence it is clearer than the Sun, That this therefore happens, because the Spirits desert their station in those Parts, and crowd themselves too much into this or the other Part. Therefore, I think, it is now sufficiently evident, That this Disease ought to be ascribed to the Animal Spirits not being rightly disposed: wherefore in the Cure I reckon, this should be our principal

cipal aim, first of all to reduce the Spirits into their pristine Order. And I am abundantly satisfied, That the chief curative indication in this Disease is to fortify the Blood (which is the original of Spirits,) by doing of which the invigorated Spirits may be enabled to maintain that tenor, which is agreeable to the œconomy of the whole Body and all its Parts. Yet we deny not, but this disorder of Spirits by long continuance may corrupt the Humors: wherefore in the Cure we should always take care of this, That the austere and other corrupt Humors may be corrected or conquered. For which purpose, we give emollient Clysters without Salt, adding only a little Essence of Castor, with great success in this Disease. Or a Clyster may be made of a Pint of Milk with Sugar, and the White of an Egg or Mucilage of Fleabane Seed. And if much Excrement remains behind in the Guts, you may add about two Scruples of Powder of Coloquintida, or a Drachm of Trochiscs of Alhandal, tied in a Rag, as also Oyl of Dill and a little fresh Butter, or a little Dung. A Clyster also may be given only of Oyl-Olive or of sweet Almonds. But if the Matter brought up by Vomiting be bilious, then we should rather abstain from oily things. Some blow into the Guts with a pair of Bellows, that so the Excrements may the more easily come down; but in my Judgment this does more hurt than good. For if the Excrements be hard, I see not how they can come down against the Wind that is blown in, and when the blast is over the Guts contract themselves the closer, because of a greater Influx of Animal Spirits. Besides, if there be an Inflammation

on the Disease is rather encrease by closing the Pores with the Cold of the Air, than diminished: wherefore some draw the Air nearer the fire, that it may remain hot; but though the Air be hot in Bellows, yet when it is blown out, it is cooled again, because it is moved towards one Part only. After Clysters we use to give Venice Soap from three Drachms to an Ounce and an half, by which Remedy I have cured several of this Disease.

Preparations of Castor mixt with Anodynes do wonders in this Disease, because they reduce the Animal Spirits into their pristine Order again. When the Spirits are reduced into Order, and the austerity is corrected, we may betake our selves to laxatives. For loosing a costive Belly these are commended, Manna with Oyl of sweet Almonds drawn without fire, given in warm Chicken broth and Emollients only, as Whey of Goat's-Milk, &c. Cassia also is good, and the following Draught;

Take of Cassia new drawn half an Ounce, *electuarium diaphœnicon*, *diacatholicum* each two Drachms, Barly-water what is sufficient. Make a Draught.

Or a loosning Decoction may be given of Leaves of Senna, and Mechoacan, adding paregorick and carminative Herbs. But in this case Carminatives must be given with the greatest caution, because they put the Spirits into greater disorders, and sometimes by distinguishing the Coats of the Guts this way and that, they tear them, and make a mournful *Catastrophe*. If the Disease come from Excrements hardened about the blind Gut and the beginning

beginning of the colon, which stop the Passage and are dissolved into Wind, you may loosen the Belly with these or the like Emollients;

Take of a Decoction of Wormwood, Pellitory of the Wall, Mallows, roots of Marsh Mallows, Peach Kernels, Linseed Oyl, Juice of Horse-dung, &c.

Then we must proceed to stronger things. For which purpose, I experienced the following Physick-Wine, in our Maiden, whose case I mentioned: for after she had drank twice of the Wine, she voided hardned Excrements with sincere Phlegm, yet such things premised, as ought to be.

Take of Leaves of Wormwood, *carduus benedictus*, Bawm, Spleenwort, Calamint, Wall-rew half an handful, Root of Zedoary, Eryngo, Burnet each three Drachms, Angelica two Drachms, the best Rhubarb three Drachms, Seeds of Anise, Fenil, Caraway each two Drachms, Leaves of *Senna* one Ounce and an half, Rind of Orange, Tamarisk, Ash each three Drachms, the whitest crude Tartar half an Ounce. Cut them, and ty them in a rag for a measure of Wine, of which the Patient may take three Ounces.

And since we have often (as we said before) found the Guts quite empty in such as have died of this Disease, it is manifest from thence, that oftentimes the Animal Spirits only offend. And Opiates are admirably good for this end, wherefore we recommend the following Powder;

Take of Cinnabar native or of Antimony half a Scruple, Chalybeate Tarrar one Scruple, *theriaca celestis* two Grains, or *laudanum opiatum* one Grain. Mix them. Make a very fine Powder, which must be severaltimes repeated.

Or, if the Vomiting be very troublesome.

Take of Oyl of Nutmeg by expression eight Grains, Salt of Wormwood one Scruple, Saffron six Grains, *laudanum opiatum* one Grain. Mix them.

Sal volatile oleosum Sylvii is good; or volatil Spirit of Sal Ammoniack may be dropt in to fifteen Drops. And all Antispasmodicks are good. *Horstius* testifies, That he cured Iliacal People only by *elixir proprietatis Paracelsi*. *Willis* his little Portion of Salt of Wormwood with a Spoonful of Juice of Limons will be proper; but it must be often taken.

Some Physicians in an excessive Obstruction of the Belly are so bold as to give Bullers made of Lead, or of *regulus* of Antimony, or of Mercury, Sulphur and Wax, not knowing, that the lower part of the Gut is seldom or (in my Opinion) never slipped into the upper: therefore here we must take care, otherwise we shall certainly kill the Patient. Let the Patient rather drink a Decoction of Goose dung in the Spring, or an Infusion of Cows or Horse dung, which is more nervine: for austere Dungs do move.

And various Externals must also be used. It will be good to use this or some such Fomentation for the Belly,

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Takes of Leaves of Mallows, Marsh-Mallows, Violets each one handful and an half, Toad-flax, Flowers of Chamomil, Melilot, Tap-mullein each half an handful, Seed of Line, Anise, Dill each three Drachms. Boyl them in a sufficient quantity of Milk or fair Water. Make a Fomentation.

Some use Brandy for a Fomentation, if it come from Humors, or, as they say, from Wind.

In our Opinion Badger's-grease is proper, with which the whole Belly, especially about the Navil, must be anointed.

Yarn also of Flax or Hemp boyled and applled, is good. Also a Decoction of Chamomil, Hemlock, Elder, Henbane, Dill and Cresses may be applied warm to the Belly.

Oyl of Henbane, Palm, Worms, Dill, Scorpions, *unguentum clysmaticum*, yea and all Paregoricks and Nervines are proper here, and sometimes they are mixt with Anodynes;

Take of *balsamus spasmaticus Mynsichti* half an Ounce, Oyl of Bays two Drachms, *unguentum dialtheae* half an Ounce, Badger's-

grease three Drachms, Tincture of Castor one Drachm. Mix them. Make an Unguent.

A live Whelp may be laid to the Belly.

But If the Disease have its rise from a Rupture, it must be cured by divers Externals. To which end an emollient Fomentation and a Bath ought to be prescribed, that the Fibres of the Guts may be relaxed. We should therefore do our utmost to put up the fallen Gut into its place. I cured this Disease in one, which came from a Rupture, only by often using the Fomentation following;

Take of Leaves of Mallows, Toad-flax, Flowers of Chamomil, Tap-mullein, Dill, Linseed each one handful, Cummin Seed two Drachms. Boyl them in Cow's Milk, and make a Fomentation.

Or it may be made into a Cataplasm, and so applied to the Tumor.

Compare with these things, what we have written hereafter of Ruptures.

CHAP.

CHAP. VII.

Of the Colick.

§. I.

AMong the intricate Diseases, which use miserably to torment and vex Mankind, the Colick, that cruel Disease, is none of the least, which sometimes sticks fast, as if a stake were driven in, and gives poor wretches a grievous Sensation; sometimes like a Vagabond, it torments a Man variously; sometimes it leaves its own seat, and acts hostilities on the external parts, and often weakens them to death: therefore it may well be derived from *κολλᾶ-ζεσθαι*, i. e. to torment. *Celsus* terms it a Disease of the larger Gut, *Cappivaccius* and others call it a pain of the Guts; it is commonly called the Colick pain and the Colick.

The Colick is commonly described to be a troublesome and sad sensation, depending on the solution of continuity, either of the Coats of the *colon*, or of the parts adjoyning. That which may dissolve continuity is either a sharp Acid or a saline Humor, or Wind, or tough and hardened Excrements: it may also be the Animal Spirits put in disorder either in the Brain, or in the windings of

the Mesentery. We think therefore that the Colick is Humoral and Spasmodick. We call that a Humoral Colick, which has its rise from any Humor; and then the Fibres of the Gut or Mesentery are convulse. We call the other Spasmodick, which arises not from the Humors, but when this Spasmodick disposition lies in the Spirits themselves, which are tumultuously exorbitant: for I reckon; the Colick arises from nothing else, but a violent impulse of the Spirits crowded thick upon the said Membranous parts; whence comes Convulsion and Pain, of which we shall say more when we come to treat of the Cause. We may very safely allow a distinction into Phlegmatick, Flatulent, Cold, Bilious or Hot.

The Colick differs also from the Iliack Passion in regard of pain; which is more violent in the Iliack Passion, and comes with Vomiting of Excrements. And it differs from the Stone in the Kidneys, because there appears Gravel in the Urine, and there is never any pain in the Groin, and about the *Pubes*; and the pain of the Loins is something violent and fixt.

§. 2.

IT is agreed upon by all the old Practitioners, that the subject of this Disease is that lax Gut, which is called *Colon*, because it is long and winding, and the sharp Humor may stick there by reason of the numerous valves. Therefore *Celsus* calls the Colick a Disease of the larger Gut; and *Alexander* says, the large and thick Gut is affected, as it may well be in the substance of its Coats. *Willis* acknowledges the Mesentery for the part affected, in which there are many large Nerves, and their *Plexus* and distributions are very remarkable. Since therefore this part is very sensible, and very lyable to an afflux of Humors of the Nervous kind, he makes it the seat of the Colick.

We think, that the cause of this Disease is often contained in the Cavity of the Guts, and among their Membranes, in which when Particles are received in the Pores, through which they cannot pass, they are shaken, reciprocated, and as it were sown in those Pores, and so by vellicating the Fibres of the Nerves, and by hurting and breaking them, they produce no small pain. If the Chyle also, either through the fault of the Stomach, or diversity of the Bile, or through some fault in the pancreatick Juice, or in any other, grow sour, by pricking and vellicating the Fibres of the Guts it may easily produce violent pain; especially in such as have it hereditarily. Which disposition, I think, consists in this, that from their infancy they have got very tender and tremulous Fibres in their Guts,

which upon the slightest motion, and by an inconvenient object, may be affected with a sense of pain.

And if there be a mucous Matter, which lines the inside of the Guts, and sometimes the crust of the Stomach, we think it ouzes out of the small Arteries, through a dyscrasie of Humors, especially of Blood: but generally the *mucus* arises from the reliques of ill digested and fermented Chyle, which reliques do ferment together with the bile and pancreatick Juice, whether they be good or corrupt: Wherefore Colick pains often arise in People fasting, and in such as have their Guts emptied by long abstinence; because in this case the peccant matter is discharged out of the mass of Blood into the Guts. And we make no question also, but the Cause of this Disease does often ly in the annexed Mesentery, and its nervous folds, the *peritonæum*, *omentum* and other Membranes and Coats of the Belly. For the *omentum* has many Fibrous, Nervous and Membranaceous Parts, which are therefore very subject to pain. Which opinion of ours we prove by what follows. For in a Cawl Rupture, through its compression, and sometimes Inflammation, I have observed pains as like the Colick as could be. And *Galen* confirms me in my opinion by the observation he made of a Souldier, that had his Cawl cut off, who was constantly troubled with Colick pains, and was Cured by *Galen* by clapping on a covering of Wool, upon which external heat, the animal Spirits caused no more Convulsions. And the example is not unlike, which I observed in the foresaid Woman

near

near *Hanover*, in a Village called *Mittelbuchen*, who, because the *omentum* hung out of the Wound of the *abdomen* a little Inflamed, one would admire, what violent pains in her Belly, like unto the Colick, she endured, but without Vomiting.

§. 3. *Diagnostick.*

A Colick in general is known by a most violent pain and torment about the region of the Guts, sometimes fixt in one place, like a piercer or stake; sometimes vagrant and unstable, now tormenting in that Part, anon in another, according to the various and violent influx of the Spirits into this or that place, and according to the various site of the peccant matter which possesses the place. Little Urine is made; for the Guts being distended by Wind require more room, whereupon the neighbouring Vessels, the Ureters and Cawl are compressed, so that little potent matter can get to the Kidneys. There is a great vellication of the *Abdomen* and its Muscles, and a spasmodick retraction of all the Bowels, so that you can see no Belly at all. A very acute pain does attend it, and sometimes Vomiting; because while the Spirits flow into the Fibres of the Stomach, they flow also into the circular Fibres of the *Pylorus*, and by closing that, it happens, that, while the Stomach in the mean time is straitned, and the contents cannot get out, the *Pylorus* now shut, they must of necessity be evacuated upwards. By the voiding abundance of yellow and green Cholera it is evident that the *duodenum* and Gall-Bladder are both affected in this

Disease. Sometimes the Bladder and Ureters, as we said, are contracted, whence a total obstruction of Urine arises. And oftentimes the Guts are contracted, so that there is a continual costiveness, or if any thing be brought away either by Art or Nature, it is generally flatulent, as I have observed in the Stone Colick, which is ever attended with a violent pain in the Loyns. But it is evident that it is a mere Spasmodick Colick, generally arising from the use of Spirituous things, ill boyled Beer, and Chalk water. There is Thirst, Loathing, want of Sleep, dryness of the Tongue, a Fever, heat of Urine, bitterness of Mouth, sometimes a distension of the Belly like a drum, sometimes a Contraction, Swooning, cold Sweats, so I observed in an old Man a Priapism, at length come Convulsions and other signs of death, or it ends in a Palsy. In a Colick of long continuance, I ever suspect the Cause lies in the Mesentery or Cawl: But when the Disease ceases presently upon taking Loosning and Emollient Medicines, I am perswaded the peccant matter did lie in the large Guts. And when the pain is not very deep, but vagrant and rending, it gives an undoubted testimony, that the nervous kind is affected.

§. 4. *Cause.*

THE ancient Practitioners take the immediate and proximate Cause to be a solution of continuity in the *Colon*, arising from a sharp, gross, feculent matter, which either fills, distends or frers. Wherefore the propinuous cause that dissolves continuity, according to

Their opinion, is a gross, phlegmatick and vicious Humor got among the Coats of the Colon; or it is a wind, distending, rending, and tearing the Guts. And hither they refer all bilious fretting Humors, which often cause an Inflammation of the Guts, all Melancholick feculency, grumous Blood, Worms, Stones, hardened Excrements which may cause the same; also sharp Sanies, a wound in the Guts, also poysons and strong Purgatives.

§. 5.

Aracellus denies that the Colick can arise from Humors, he rather thinks, the cause is the dissolved Spirit of Salts, wherein, through the extremity of their Tastes, there is either austerity, acidity, acrimony or saltiness, which may easily vellicate and corrugate the sensible membranaceous Fibres. And he says, That a Body does adhere to this Spirit of the Salts, which is coagulated in that place. He reckons therefore, That the cause of this most violent Pain is a Salt, or rather the Tartar of the Chymists, either too much dissolved or too much coagulated, infecting, straitning and with divers pains tormenting the Guts and Part thereabout, with their styptick, pontick, sowre, aluminous and sharp Spirits. This clearly appears from *l. de tribus princ. c. 4.* where he says, That the Colick arises from Salt predominant in the Guts. The several sorts of Colicks must be taken from the differences of Salts and saline Spirits, namely, vitriolate, aluminous, sowre, and the like. And the degrees of the Colick must be taken both from the

divers Powers of the Spirits, and their further circulation and exaltation. But if the neighbouring Regions of the Kidneys and Bladder be full of, and covered with, such a tartareous Matter, they also are put into Paroxysms and Effervescencies, from the compression of the Spirits, that arise from the Mine and Centre of the Colick.

§. 6.

Helmont thinks the Colick is produced, when a preternatural Acidity is in the Meat or Drink; and he testifies *de potestat. medicament. p.m. 292. n. 23.* That this sad Disease often comes from an acid Salt: for he has observed, that the Colick has come from eating of Mulberries. The more Acid therefore the peccant Humor is, the more violent are the Pains. If also the Ferment of the Gall have not turned the acidity of the Chyle into a salt volatility, then there comes a vitiated Digestion, which afterwards produces a Mucilage, wherein Acidity is included. If therefore this over tough Matter, imbued with a vitiated Ferment, the cause of Gripes, do stick to the Guts, then it will cause most exquisite pain. For the Guts, that they may drive out this slimy Stuff, compress, corrugate and draw themselves together, and when the Guts are so contracted, it so happens, that the Muscles of the *abdomen* also are contracted and convulse, and why may not the acidity, so much an enemy to the Guts, contract them? The cause of this Disease lies often lurking, like a thief, in the Gall: for these acid Salts, if they be not conquered by the fermental Blas of the Gall, become the causes of the Colick.

Colick pain; for they are the occasional cause, that the *Archæus* of the Guts is enraged, which produces a most dangerous Colick pain, and provokes the *pylorus* so much, that in its fury it ends in a Palsy and shrinking of the Hands and Feet, by affecting the nervous kind with its furious *Blas*, and by destroying its tone.

§. 7.

Allis does, with *Carolus Piso*, rank this Disease, so great an enemy to Mankind, among Diseases of the Brain, upon this account, because he thinks, as sure as can be, that the Seat and Cause of this Disease lies in the nervous Parts. The better to confirm this Opinion, he has found out the nervous Liquor, which if it degenerate into sower Recrements, then by distending the sensible Fibres, by parting them in sunder, and by putting them into dolorifick Corrugations, it may easily produce this Disease. Which vitious Juice, he reckons, goes down from the Brain by the nervous Ducts to the Guts, and are gathered about the Parts in pain and the Mesentery, as also, that it grows turgescient of it self through plenitude. The peccant Matter, therefore being by degrees gathered about the Mesenterick *plexus* of the Nerves, and others, grows turgid either of it self or occasionally, or perhaps it ferments with a fixt Saline Humor, discharged out of the Blood thither, and by consequent torments the nervous Fibres, of which the Mesentery is full, with troublesome and painful corrugations. Yet he does not deny, but the animal Spirits flowing in im-

petuously, do usually raise these Spasmodick dispositions, as he proves by several reasons. Concerning which the reader may consult the Author himself.

§. 8.

Sylvius recounts and explains the Causes of several Colick pains. He thinks that a hot pain is produced by a fatty bile powerfully and vitiously fermenting with an acid Pancreatick Juice. He thinks a chill pain has its original from a very acid and sharp Pancreatick Juice, fermenting with Bile that is not so fat, or less in quantity. He ascribes the cause of a piercing fixt pain to a pancreatick Juice, that is very sharp, mixt with viscid Phlegm, known by the name of vitreous Phlegm. He ascribes a dull pain to abundance of viscid Phlegm, and a distending pain to viscid Phlegm rarefied into Wind, which distends either the Guts only or the Belly also. He ascribes a cutting pain to an overacid pancreatick Juice. And so he orders the cure to be varied, according to the variety of the causes.

§. 9.

The Cartesians derive this Colick pain usually from a bilious Humor joyned with a fretting Salt, which fretting Salt is contained not only in the Cavity of the Guts, but between their Membranes; therefore its Particles, when they are received into the Pores, through which they cannot pass, rub as it were one against another in these Pores, that is, when these pointed, rigid, pricking, fretting

and cutting Particles are left in the Coats of the Guts, and then being violently driven, with their Points they produce this most exquisite pain, by vellicating, fretting and corrugating the Fibres. And by consent the rest of the Parts, namely, the Stomach and Bladder may be convulse, whence come Vomiting, difficulty of Urine, &c. And sometimes the Pores of the Guts may be obstructed by viscid and gross Particles, and so a Colick may arise. Sometimes it comes from distension of the Guts. But if one should touch and separate such a Membrane with a Pin or any such Instrument, what violent pain would it not put a Man to?

§. 10.

WE, as we said before, do think that the Colick is either humoral or spasmodick. We call that *humoral*, when some strange Humor is often mixt with Wind, which offends the Animal Spirits, and so is the cause of all the mischief. These Humors are bilious and sharp, namely saline and scorbutick, which being joyned with a fretting Salt, cause pains joyned with convulsive Motions, by pricking, fretting and cutting, the *plexus* and Nerves, not only of the Guts, but of the Mesentery, Cawl and other Parts. Yet generally, we are perswaded, this Disease arises from an Acid, whether it be an acid slime that sticks pertinaciously to the folds of the Stomach, or hardened Excrement, or Wind rising from ill Fermentation, which shows that there is an acid, austere viscidty, which fermenting turns into a flatulent Gas. Worms and the Stone also by vellication may cause the

same Disease. For this excessive and virious, yea corrosive acid rages seldom in the Coats of the Guts, often in the Cawl, but most frequently in the *plexus* and Nerves of the Mesentery. The Bile also is often so changed and corrupted by an Acid, that it turns quite austere. Wherefore they that are troubled with this Disease, are always costive; and the repeated painful Contractions of the said Parts are caused by a sharp and virious Acid. And because we see Wind is raised, when ever volatil oily Salts fall upon Phlegm, we reckon, that Portions of volatil Bile meeting with thick Phlegm, do dissolve it into subtil Wind, which distending the Cells of the Colon retard the Excrement, and hinder the due Influx of the sensitive Soul, whence proceeds costiveness.

These Colick pains often arise in a scorbutick Disposition, which besides the aforesaid causes, we may derive from lixivial serum, which by distending and contracting the membranaceous, sensible Parts may contribute something. Oftentimes this virious Matter returns upon the Nerves of the Loins, which is the reason, why the Patient feels violent pain about his Loins. And this morbid Seminary being received back again, is carried to the very spinal Marrow, and communicates the like taint to it, then the spinal Marrow, being almost spoyled by it, communicates this contagion to the Nerves of the Limbs, that arise from thence, by whose fixing, coagulating and stupifying virtue the concatenation & commerce of the Animal Spirits (the Authors of all Motion) is interrupted, and thence proceeds impotency of Motion.

We

We call that a *Spasmodick Colick*, in which the Animal Spirits are so affected by some subtil Matter, that they intermit their ordinary Motion, and flow tumultuously to the Mesentery, and other sensible membranaceous Parts, and there by vellicating the Fibres of the Nerves, and by hurting and breaking them, they produce no small pain. Or it may so be, that the most subtil Particles are so received in the Pores of the Guts and Mesentery, and of other Parts, that they cause a kind of Inflammation, whence proceed these violent Pains. And whereas the Patient finds an intolerable pain about the Pit of his Stomach, with cruel Vomiting of Matter as green as Grass, the reason of that is nothing but a thick crowding of the Spirits into the said Parts, especially into the circular Fibres of the *Pylorus*, whence proceeds a Pain and Contraction of the Stomach, and a total subversion of other Parts. For we must not always, because we see bilious green Stuff vomited or voided by Stool, presently conclude and say, That the Disease resides in the Humors, or that this cruel Colick pain proceeds from the Acrimony of any Humor, gnawing and pricking the Part wherein it resides, and so take it for the cause of the Disease, and therefore think utterly to extirpate it by purgative means. For it is clearer than the Sun at Noon-day, that the indisposition, under which People at Sea do labor, does arise from the unusual agitation of the Animal Spirits upon the troubled Sea; and yet we see, a Mass of grass-green Stuff comes from the Stomachs of the most healthy Persons, when they are got a good way to Sea, who

but an hour before had no porraceous Bile in them; as I have experienced in my self at Sea. Yea in Fits of an Epilepsy do we not often see Evacuations, where nevertheless there is no bad Humor in the Guts? Also in a sickly breeding of Teeth, with strange Excrements come away, only through the disorder of the Spirits, which, I know not how, destroys and perverts the Ferment of those Parts, or by the strength of Convulsions it strains some Liquor or other of a strange nature, which may give the Humors that colour, and in my Judgment the various commixture of Bile with the pancreatick Juice may cause this greenness. For if the pancreatick Juice be mixt with a saline volatil oyley Bile, this porraceous greenness may arise from their mixture; concerning which colour, see *Ettmullerus* his *Valetudinar. infantil.* §. 21. *de torminibus & variis alvi excretis infantum*, where you will find this subject elaborately handled. The thing therefore rightly considered, it is apparent enough, That this violent pain, and the vomiting of green Matter, which almost kills People in this Disease is most certainly produced by the Animal Spirits, flowing too impetuously into that Part of the *abdomen*, and contracting these same membranous and fibrous Parts. For the Guts with the Parts annexed are often so contracted and corrugated, that the Muscles of the Belly are contracted with them, and the Patient looks as if he had no Belly at all, as I have observed in several, who have had their Belly so contracted, that I could feel nothing but Skin and Bones. And I am perswaded that the very Spirits may be so disposed

posed by the Air and other very subtil Particles that one may fall into this Disease, without any peccant matter lying in the *Abdomen*. But I am weary of dwelling any longer on things that are so well known.

These we take to be the proximate and continent causes; the procatartick and remote causes of this Disease may be divers, a Complexion phlegmatick, cholerick, or melancholick, and an innate disposition to the Colick contracted from ones Mothers womb. Also the six non-natural things, of which we shall speak in the Diet.

§. II.

THe Causes being hitherto enumerated, on which as on prolifick Parents this spasmodick Disease depends, we must direct our thoughts to the Prognostick. For nothing can gain a Physician greater reputation among his Patients, than to give sure presages of future contingences. The Colick pain has not always the same issue. For sometimes it is easie to be cured, sometimes hard, yea dangerous, and now and then mortal, not so much on its own account, as of Diseases that are either conjunct or subsequent. This spasmodick pain often ends in a Palsy, or Epilepsy, or Gout, or some sleepy Disease; it often degenerates into the Iliack Passion. Because the Blood, being hindred in its motion by the corrugation of the fibres, and gathered more than it ought in the interstices of the vessels, breeds an inflammation, whence proceed a *Miserere mei* and a Gangrene Colick, which comes from an inflammation of the Guts, or from a Excoriation, Wound

or Ulcer in them, or from rough and salt Phlegm, or from too corrosive an Acid, or one that is epideemical and malignant, or which is endemical, if it be not always mortal, it is at least tedious and dangerous, and that is usually mortal, which is followed by an Iliack passion. A Colick pain is not dangerous, when it comes from an evident solitary cause. But that which is habitual is very dangerous, for it does not easily give way to Remedies, and sometimes it lasts some months, yea sometimes a year, and it turns either to a Palsy or to some other Disease; and it often returns, of which there are so many examples, that I need not to instance in any, yet there is hope of cure, when the Patient is young and in his full strength. And I promise some famous Medicines, which will quickly cure it, provided that directions be followed. For when you are unwilling to die, it is a miserable thing not to do all you can to live. The Disease will be at an end, if you do but quiet the violence and disorder of the Spirits, and destroy their irregular motion. Yet it often is a most grievous Disease, and requires good strength to undergo it, therefore when it takes Women with Child or Lying-in, old people, and such as are wasted with Diseases, it is usually dangerous. And it is a most certain sign of death, when the hicough, want of sleep, *delirium*, cold Sweats, and coldness of the extreme parts supervene, through the violence of the Disease: for then the Patient will scarce escape.

§. 12. *Dietetick Cure.*

ALl our care hitherto has been bestowed upon enquiry into the Nature of this Disease, it remains therefore that we bestow a little on the Cure of it, which as well in this as in other Diseases consists in a good Diet and Medicines. Chuse therefore as pure and thin an Air as you can, forbear all that is thick, cold, over hot, cloudy, moist, or full of Vapors.

Let the Meat be of good Juice and easie Digestion. Forbear all windy Meats, such as are all Pulse, Fish, &c. Forbear likewise all sharp, salt and phlegmatick Meats. I was lately troubled with it, upon eating Carp, that was not well boyled. All Acids are very hurtful in this Case, and so are all horary Fruits, especially raw. All sweet meats hurt the Patient, because all sweet things contain an acid corrosive in them, as appears from *Piso's* observation, who writes, how that the juice of a Sugar-cane turns sowre in a short time, and adds, That a Spirit is destilled off Sugar, which the *Portugueze* call *Aquaden-ti*, which cools with the greatest Scepticity, contracts the Tongue, gripes the Bowels, corrodes Metals, and is of a nitrous and bitter taste. For Sugar dissolves Antimony it self, if it be mixt with it three days and destilled. Let their drink be a decoction of *China* root with Raisins; or a small wine, which has no Acidity in it. Forbear all tartareous, Franconian, sulphurated and palled Wine. *Grembs* writes, That all Wines are nought in this Case. But I cannot see how any Wine, that has a volatile acid in it, can do hurt. There-

fore I shall commend *Rhenish* and *Moselle* Wine, *Neccarine*, *Hirshstein* and *Mitchelback* Wine near *Hanover*, which are excellent Wines in the Colick, Gout, and Stone. Beer not well boyled or wrought, too new and thick, is naught. Drink made of Fruit, Perry and Cider, such as Country People make, is bad. Let the Patient take but sparingly of spirituous things, because they much disorder the Spirits.

Let the Patient observe a mediocrity in Motion and Rest: for excess in either does harm.

Let him sleep longer than he wakes.

Let him never give way to the passions of his mind, especially let him forbear Anger, Grief and Sadness; all which contribute, though in a different manner, to the producing of a Colick.

The excreta and retenta must be duly kept to nature's laws; the Belly especially must be kept loose: but forbear all violent Vomitors and Purgers; for they do more hurt than good. Hither also we refer preternatural Causes, precedent Diseases, inasmuch as they translate the Matter to the Guts, deprave Concoction and Fermentation. Intemperature of the Brain, Blood, and *Lympha* are very effectual in producing a Colick.

§. 13. *Pharmaceutick Cure.*

THE Ancients insist on a different method of Cure, according to the difference of the Causes whence it is produced. The cure therefore of a Colick which arises from the proper Diseases of the Guts,

Guts, to wit, an Inflammation, Excoriation, Wound or Ulcer consists in the cure of that thing; because when the Cause is removed, generally the effect is removed also. A Colick that comes from Worms, or Stones, or rough and sharp Bodies swallowed down, as Pins, is cured by Evacuation of those things. One that comes from bilious Humors is cured, when they are tempered and carried off; and so, if a tough, viscid and sharp Phlegm have produced it, this must be cut, attenuated, corrected, and then carried off by Phlegmagogues. To which end they commend inciding Decoctions, especially of Woods, Barks and carminative Seeds. Then what is fit to be carried off, they purge with Phlegmagogues, of medicated Wines, Portions, Pills of Gums, adding Carminatives and Narcoticks. But if the Disease proceed from Melancholy, they give Melanogogues: And that Humor must be corrected with watry things, as Whey; and with earthy things, as bole Armenick, the Jaw of a Perch, &c. The Ancients cry up Wolf's Guts, as a Specifick in this Disease. If bile abound, they give Chologogues.

The wind Colick requires, 1. The amendment of both the material and efficient Cause. 2. The Discussion of wind raised by them. 3. The Mitigation of the pain. 4. The carrying off the material cause. To which ends, they commend the following Clyster;

Take of the emollient and carminative Decoction one Pound, *diacatholicon* one Ounce, common Salt one Drachm, Oyl of Dill six Drachms, Aniseeds de-

stilled ten Drops. Mix them. Make a Clyster.

An emollient and carminative Decoction may be made of these or some such things;

Take of Root of Smallage Lovage, each one Ounce, Leaves of Mallow, Marsh-mallow, Groundsel, each an handful, Mercury, and Pellitory of the Wall each half an handful, Seeds of Anise, Fenil, Caraway, Lovage each three Drachms. Boyl them in Spring water. Keep the Colature for use.

When the Body is purged, they give things to assuage pain as Oyl of Sweet Almonds in Malmsey or Hippocras Wine, Treacle, Mithridate with Castor, and other Opates, as *Philonium Romanum*, *Requies Nicolai*, and a thousand other things. Among externals they commend Yarn boyled in Ley, and applied hot to the Belly; Bags of Millet, Oats and Salt fried, and of other carminative and emollient Herbs. They also apply divers Unguents, Liniments, and Cataplasms of Linseed Oyl, white Lilies, Chamomil, &c.

§. 14.

The Paracelsists say, This Disease is saline, and that it must be cured with Salts. Therefore they will have the dissolved Tartar coagulated, precipitated, and afterwards carried off. The salt also, which is the internal principle of man's body, degenerating from its nature, must be corrected and strengthened by the elementary Salts. For expelling the salt they com-

commend Elecampane; they do not approve of violent things, nor Purges of Coloquintida, and such things; for the salt, as *Paracelsus* says, will not bear violence. And because the spirits are in this case thirsty, and out of order, spirit of Nitre, Tartar, common Salt, Vitriol, Oyl of Nutmeg, Cloves, Cummin, Amber, Sulphur, & Turpentine will be proper, Civet also may be applied to the Stomach with Oyl. The extract of Orange pill in good wine is an excellent Medicine; and so is extract of *calamus aromaticus* with Cinnamon water, burnt Harts-horn, and the bone found in Wolf's dung is reckoned as a great secret by *Paracelsus* in this Disease. He commends Cataplasms of the dung externally. He says, that sweet, fat, and oily things are good in drink. But above all things he extols his *laudanum opiatum*.

§. 15.

Helmont has often cured a Colick with true *laudanum* without opium. He also orders the belly to be fomented with some warm Ointment: and he highly magnifies Aniseed. His disciple *Grembs* recovered one of the Colick by giving him an emollient Clyster with three drachms of *Philonium Romanum*, and constantly giving him *laudanum opiatum*, and Chicken broth, with *China* root and *daucus* seed boyled in it. Then he concluded the cure with pills of Aloes.

§. 16.

Ullis will have the cure of the Colick to be be-

gun with a Clyster, which at first must be lenient and emollient, whereby, as by an inward Fomentation, the Corrugation of the Fibres is stoppt, and the raging Spirits are pacified. To which ends he orders one to be given of warm Milk and Sugar; or emollient Decoctions of Mallow, Marsh-mallow, Elder, and Oyl of sweet Almonds; also a Decoction of a Sheep's head, or Calves feet; or only Oyl Olive, or linseed Oyl. If these Clysters do not loosen the belly sufficiently, he would have men use carminative or bitter Decoctions, in which some *electuarium diacatholium*, *è baccis lauri*, or *hiera picra*, is dissolved. Or;

Take of Infusion of *crocus metallorum*, or a healthy body's urine, one pound, Venice Turpentine dissolved in it one ounce and an half, brown Sugar half an ounce. Mix them. Make a Clyster.

For the balsamick particles of the Turpentine, comfort the Bowels, and assuage the Fibres. But if the Gripes will not give way to these gentle things, he thinks, we should have recourse to hypnoticks, as to the last refuge. For which purpose he commends his *laudanum liquidum tartarizatum* from sixteen to twenty drops, given at the hour of sleep in a spoonful of Chamomil; or some other carminative water. When these things are given, he gives either a Vomit, or a gentle Purge, of *Tartarum emeticum*, or white Salt of Vitriol; or of Resin of Jalap, *pilule Rhudii* and *Mercurius dulcis*, to extirpate the matter of the Colick. And at last, when we cannot attain our end by these means; he advises

advise salivation, as the only remedy. If the Colick be of any continuance, and contumacious, besides the foresaid things he advises divers Diureticks and Spaw-waters. Among externals he commends Epithems to the belly of leaves of Mallow, Mercury, Pellitory of the wall each four handfuls, flowers of Elder, Chamomil, Melilot, each three handfuls, a Sheeps head. Boyl them in a sufficient quantity of Spring Water. The Colature may be used for a Fomentation, with Flanel dipt into it warm, and wrung out, and so applied, repeating it, when the pain is violent. He also says. That a Lambs Cawl or Lungs, and other inwards of Brutes, taken out and applied warm, do wonderfully ease pains of the Colick: But in some constitutions he observed, that Epithems of hot things, or applied hot, rather encreased than abated their pain. And in such cases he rather commends Fomentations of solutions of nitre, as sal Ammoniack, and sometimes, with *Septalius*, one made of pure cold Water.

§. 17.

Sylvius cures a hot pain, arising from fat bile, by Acids and Watry things. Here is one of his Receipts;

Take of water of Cichory, Sorrel each two ounces, Syrup of white Poppy one ounce, Spirit of Nitre eight Drops. Make a mixture, to be taken by Spoonfuls.

And in this case the following Emulsion will be proper;

Take of the four greater cold seeds each one Drachm, sweet Almonds three Drachms, white Poppy seed one Drachm. With Chamomil and Mallow-water make an Emulsion.

Then it will be necessary, that the bile so corrected, be carried off, to which purpose he prescribes the following Electuary;

Take of Pulp of Tamarinds two ounces, conserve of Damask Roses ten Drachms, Electuary of juice of Roses one Drachm, salt of *tartarum vitriolatum* one Drachm. Mix them. Make an Electuary. Let the Patient take the quantity of a Nutmeg.

A cold pain, which is contrary to the other, must be cured by aromack Spirit of wine, impregnated with a volatil oily salt: for instance;

Take of water of Fenil, Treacle simple each half an ounce, salt of Wormwood one Scruple; Crab-eyes half a Scruple, Syrup, of *Cardus Benedictus* half an ounce. Mix them. To which sometimes one grain of *laudanum opiatum* may be added.

He endeavors to cure a piercing fixt pain by correcting and tempering the acid Acrimony of the Pancreatick juice, and the viscosity of the phlegm, joyned with it; which is done by gum Ammoniack, *galbanum*, *sagapenum*, mastich, &c. He writes, that Oyl of Hartshorn is of great use in correcting vitreous Phlegm. And he commends Phlegmagogue pills, described, *prax. l. 1. c. 14. §. 5.*

In Pain with a sense of Contortion, caused by the Austerity of the pancreatick Juice, he magnifies Spirit of Sal Ammoniack and Tincture of Castor. For which purpose he commends the following Mixture, to be given by Spoonfuls ;

Take of water of Penny-royal two ounces, Fenil one ounce, Tincture of Castor three Drachms, *laudanum opiatum* two Grains, Syrup of Mint six Drachms. Mix them.

A distending pain, caused by wind, he removes by divers Carminatives, Spirit of Nitre, &c. And volatil Salts are good, which both correct a viscid Phlegm and sharp Bile. Among externals he prefers *Unguentum Martiatum* and *althæa compositum* above all others, adding some oyl of Chamomil, white Lilies, Bays, &c. And a carminative Plaster, applied to the Belly will be good.

§. 18.

They that build on the Cartesian fundamentals, do all they can, to blunt the sharp, pungent and cutting particles, and to break the violence of the sharp Humour, and to assuage the nervous Fibres, that are hurt thereby ; which according to them, may be obtained by divers anodyne, paregorick things: for they often give Opiates, that so the Patient may have ease, and the Physician gain time, to carry off that foreign salt. Then they give a gentle Purge of extract of Rhubarb one scruple or five and twenty Grains. Then they give a

Sweat, which must also be a little Anodyne ;

Take of *Bezoarticum minerale* twelve Grains, oriental Saffron six Grains, Camphore three Grains, *laudanum opiatum*, one Grain, water of *carduus benedictus*, Mint, Syrup of red Poppy each what is sufficient. Mix them. Make a Draught.

They also advise Clysters, and Externals, which assuage the hurt Fibres, and stay the impetuosity of the animal Spirit, all which you may find in the following Section.

§. 19.

UU^e do think in a humoral Colick, that the cure must be directed to the peccant Humor. If therefore, we suspect, that this cruel Pain comes from the Acrimony of hot, sulphureous or bilious Humors, which we may know by a kind of burning in the parts affected, thirst, vomiting, of bilious Matter, and other Signs, then we commend the following Mixture ;

Take of water of Wood-sorrel, Plantain, Cichory each an Ounce, *laudanum opiatum* one Grain, spirit of Nitre twelve Drops, Syrup of Orange pill half an Ounce. Mix them.

Emulsions, but especially Opiates, are very good. And now and then a Clyster both laxative and anodyne may be given and gentle Cholagogues ; but we especially approve of a Decoction of Tamarinds, by which alone we cured a *Switzer*, who studied Divinity

vinty at Hanover, beyond the expectation of another Physician, who had given him over for dead. To which purpose a gentle loosening Decoction may be often given in a small Dose: to wit;

Take of leaves of Bawm, Penny-royal, Spleenwort each one Handful, root of Lovage, Fenil, *Asparagus* each half an ounce, leaves of Senna six Drachms, Mechoacae three Drachms, seed of Fenil, Sermountain each one Drachm. Boyl them in flesh Broth to a Pint. Add of *Syrupus de duabus radicibus*, what is sufficient. Mix them.

In this case Fomentations and Cataplasms of emollient and antiscorbutick things may be outwardly applied. I often assuage Pain and evacuate the peccant Matter both at once, by giving Opiates and Cholagogues together. When the pain is gone, I order the following, or some such like pills;

Take of *Massa pilularum tartarearum* half a Drachm, *diagridium* twelve Grains, Oyl of Amber one Drop, with *tinctura proprietatis* or *essentia anodyna* make pills for two Doses.

For nice persons I use the following Potion;

Take of Calabrian Manna two Ounces, Dissolve them in a sufficient quantity of Mint and Fenil water; add Frog-spawn water half a Drachm. Mix them.

But if the Disease proceed from cold and sharp Humors, then the following Clyster may be given;

Take of the emollient herbs, *carduus benedictus* each an Handful, root of Elecampane, *acorus*, Galangal each two Drachms. Boyl them in sweet-Milk, adding of Barly one Ounce, one yolk of an Egg, oyl of Fenil, half a Scruple, or Oyl of Rew or Juniper. Mix them, make a Clyster.

I ever observed admirable success in adding an Ounce or two of *aqua benedicta Rulandi* to Clysters, and from such antimonial Clysters, as we meet with in *Riverius*, *Sennertus* and others. Milk also boyled with Garlick may be supped. Milk likewise boyled with a good quantity of Elder-flowers, drunk especially in the morning, if the patient can keep himself in bed and sweat, will do good. A Clyster also is good, made of milk one pint, St. Thomas Sugar half an ounce, butter one ounce and an half, *Album Gracum* two Drachms; or some *unguentum Clysmaticum*.

In this case a Drachm of fresh *sperma ceti*, not rancid, may be given in generous wine with good success. So Oyl of sweet Almonds with a little salt, or one grain of *laudanum opiatum*, or three Grains of Camphore, is good.

If an acid, or (to speak like the vulgar) a melancholick Humor, cause this pain, it must be corrected. For this purpose we commend all manner of Alkalies which are excellent good mixt with Opiates. I also prescribe a Powder of Crab's-eyes, Pearl, *sperma ceti*, Bezoar, and *theriaca caelestis*, which is excellent in this case. All testaceous Powders, Whey, Asses Milk, *antimonium diaphoreticum*,

cum Castor (as it is endued with a volatil oily Salt) and finally all volatil oily Salts are proper to im-bibe and precipitate the exor-bitant Acid. And divers Externals, Liniments, Cataplasms, and other carminative things are good. When the pain is abated, Melanagogues mixt with Carminatives may be given. If there be any austere Humor, and the body be bound, a Clyster may be given with a little Essence of Castor in it. In a scor-butick Disposition Antiscorbuticks must always be added; and after-wards the peccant Matter must be evacuated by Hydragogues.

In the wind Colick *essentia car-minativa Wedelii* and our carmina-tive Spirit, which follows, will be good.

Take of Orange pill one Ounce and an half, root of Elecampane, *acorus*, Master-wort, Galangal, Aniseed, Bay-berries, each half an Ounce, Castor one Drachm. Let them be infused in spirit of Juniper Berries and generous Wine, then desill them, and keep it for Use.

This is also an incomparable Draught in the Colick,

Take of generous Wine one Ounce and an half, *aqua vita Matthioli* half an Ounce, Oyl of sweet Almonds one Ounce, *laudanum opi-atum* two Grains, Camphore three Grains, Salt of *carduus be-nedictus* one Scruple, Saffron six Grains, *spiritus salis Ammoni-aci* or *salis dulcis* half a Scruple, Syrup of Poppy two Drachms. Mix them and shake them well together, for one Draught or two.

If Worms, or Stones, or harden-ed Excrements be the Cause, we must always take care to get them out of the Body. In a spasmodick Colick, we must endeavor first to correct the morbifick matter, lodg-ed generally in the nervous Folds of the Mesentery, to remove the Solution of Continuity, and to slacken the over quick, active, and spasmodick irregular Motion of the Spirits, into the parts of the *Abdomen* and to reduce the spirits into good order again. And Clysters have a singular virtue to paci-fy the Spirits; and therefore are very convenient in all convulsive Motions: for what Fomentations do, applied outwardly to the Bel-ly, that they do inwardly, when being poured into the Gut, they enter their Pores, and some dissol-ving particles expire, which tem-per and attenuate the morbifick Matter, and rid the fibres of it. These Clysters may be made of divers emollient, anodyne and ner-vine herbs, and a Drachm or two of Essence of Castor may be added, to wit, of Marsh-mallow, Liquorice, white Lilies, Leaves of Mallow, Marsh-mallow, Pellitory of the Wall, flowers of Chamomil, Elder, Meli-lot, Seeds of Caraway, Bay-berries, Juniper berries, &c. We commend also antimonial Clysters, of which before. As for Purgatives, we dis-approve of them, because they ex-asperate pain and hasten death, as that Famous Physician *Wefferus* in *Ephemerid. Naturæ Curios.* has ob-served, as well as I. But Medi-cines imbued with an anodyne Sul-phur, and which have gentle pare-gorick Particles in them, do stop the anomalous influx of the Spirits into the Membranaceous parts of the lower Belly; and Opiates ex-

cel all others: for Tincture of *opium* extracted with Alcohol of Urine, and transcolated several times, relieves to a miracle in desperate cases; and so does *laudanum opiatum*, made by Fermentation *Langelotti's* way. We have with good success used *essentia carminativa* mixt with *essentia anodyna*, *Wedelius* his way. I must needs commend this paregorick tincture of mine, which mixt with my anodyne tincture never failed me;

Take of Spirit of Rosemary half an Ounce, Worms two Drachms, Harts-horn, volatil Salt of Amber, Vipers each one Scruple. Digest them together. The Dose twenty Drops twice a day, and let the Body always be disposed to Sweat.

And anodyne Essence will be good of three parts *laudanum opiatum*, and one of Balsam of Sulphur, sharpened with tartarified Spirit of Wine, and first prepared with *spiritus nitri dulcis*. There is great virtue also in our *theriaca Cœlestis*, if you give a few grains of it.

Among mineral Anodynes, Cinnabarines excel, being thorowly impregnated with fixt Sulphur of Antimony, especially Cinnabar fixt with Oyl of Vitriol, which is the true *Panacea Anwaldina*. Some love it prepared without an Acid. The Powder also gathered from the dross of *regulus* of Antimony at the last precipitation with Spirit of Vitriol, is famous. Also the anodyne Sulphur of Vitriol, made our way, eases Colick pains like a charm. We may reckon Treacle water among anodynes, which may be given either by it self, or mixt with other things.

To refresh the Spirits and comfort the Nerves, we advise Medicines, that are strong, of a gentle, sulphureous, volatil Salt, which bring the Spirits into order again. All Balsamicks are good in this case, especially our nervine Balsam, which by constant using does wonders. Essence of Castor, Amber and other spirituous cephalick Elixirs, are of great efficacy in weakness of Spirits. Cordials also must be given frequently: for instance; Barly, Cinnamon water, Pearl, of the Velvet of Stags heads, Orange flowers, *Danica rubra*, *spiritus confortativus cardamomifatus*, *confectio alkermes*, *pulvis diacermes* and *cordialis pretiosus*, which may be made up into Receipts by a prudent Physician. Acids also are good, which have a Sulphureous volatil principle in them, inasmuch as they check the sharp *effluvia* of the Spirits, and stop their hasty Motion. But among all Acid Spirits, the best is that most volatil Spirit of Vitriol, which is made of Vitriol of *Mars* impregnated with Spirit of Sal Ammoniack, destilled by a glass retort in an open Fire. And Spirit of Ivory deserves praise.

Antiscorbuticks also and Diureticks must not be neglected, which put the morbidick Matter into fusion, and carry it along with them to the urinary Passages, such as, *aqua antiscorbutica* either hot or cold, as there shall be occasion, *specifica Hertodi ex stercore columbino*, Spirit of Sal Ammoniack simple and compound, *mixture de tribus*, Spirit of Turpentine, *Sal volatile oleosum Sylvii* or *nostrum*, Powder of Orange Pill, and other Balsamicks, which help Solution of Continuity, and correct a vitious Acid. But Tincture

ture of Antimony exceeds all the rest, about thirty drops of it given frequently in *aqua lumbricorum magistralis*. The virtue of this following Balsam is excellent;

Take of Balsam of Peru, mix it with Spirit of Sal Ammoniack and Ivory, and digest it gently.

Liquor cornu cervi succinatus, and all Cinnabarines, and cephalick Powder made of them, especially mixt with Opiates, are of great efficacy. All Antiepilepticks and Castorines seem to be of singular Virtue in spasmodick Fits of the Spirits. Here also *aurum fulminans*, taken from one Grain to five, will do good. And it will not be difficult for a prudent Physician to satisfy several indications by these Medicines. *Spermaceti* does not only temper Acids, but allwages the membranous and sensible Fibres, and so eases Pain. But it must be taken with Oyl of sweet Almonds, Sack, or in warm Broth, this Potion, *Crato*, who was Physician to three Emperors, reckoned among his secret Medicines. When these things will do no good, they go to a Milk or Whey Diet. Or we send our Patients, as to their last refuge, to the Waters, such as *Embsden* in Germany and *Bourbon* in France; by drinking whereof *Citesius* recovered several, who were grown paralytick by an epidemical Colick: So great is Nature's bounty towards us, and so admirable is the art of Physick! We do not exclude hot Baths, which have cured many. If we have them not natural, we may have them artificial. A Bath of fresh Water, Milk or Oyl Olive is good. This

following is excellent;

Take of root of Marsh-mallow, white Lily, Flowers of Chamomil, Melilot, Elder, leaves of Mallow, Pellitory of the wall, Violets, Buck-bean, Brook-lime each, what you please. Mix them for a Bath.

Externally a Bag of wheaten Malt ground with Cummin, common Salt and Chamomil flowers, will be good; such as this following;

Take of ground Malt, Cummin each two handfals, flowers of Chamomil, Mullein, Melilot each half an Handful, seeds of Cummin, berries of Juniper each half an Ounce, Camphore (if the patient can endure the smell) one Drachm. Mix them for bags; and apply them hot.

Wooden trenchers made very hot and wrapt in a Napkin, impregnated with Oily things, and so applied to the Belly, do often give ease. But we must have a care how we meddle with Topicks: for they often do the patient mischief; because the saline Recrements, being disturbed by them, produce a more violent Heat; yea an Inflammation of the Guts and Mesentery, which at length ends in an Abscess; as *Wepfer* found it, in a Body which he opened.

We highly value nerveine Topicks mixt with Anodynes, which have also a precipiating Virtue in them, such as *aqua arthritica*, spirit of Sal Ammoniack, Worms, *liquor nervinus*, Oyl of Soap, or Frogs. Or;

Take of Oyntment of Marsh-mallow, *unguentum anodynum* each half an Ounce, Oyl of Worms two Drachms. Mix them for use.

Also we order *balsamus spasmodicus Mynsichti* to be applied to the back, with good Success. I may likewise recommend Aromatick Oyls, *spiritus convulsivus*, and other Carminatives, the *spina dorsi* may be anointed with *unguentum resumptivum* mixt with Bevers grease, &c. The following Liniment applied to the Belly eases the most violent Pain, to a miracle.

Take of Spirit of Ants, Worms, Lily conval, *spiritus arthriticus*, *spasmodicus* each one Ounce, volatile Salt of Hart's-horn one Drachm, Tincture of Castor three Drachms. Mix them.

The Belly may also be anoynted with Oyl of Sow-bread. Or ;

Take of Oyl of Chamomil, Almonds, Dill each one Drachm, destilled Oyl of Bay-berries, Caraway, Cummin each half a Scruple, Essence of Saffron half a Drachm. Mix them.

Oyl of Myrrh may be dropt into the Navil. A Cataplasme may be made of Pellitory of the wall, Cresses, and boyled Onions, with Oyl of Scorpions.

Out of the Fit, for Prevention sake, the morbidick cause must be removed by Purging, Vomiting and Bleeding. Afterwards opening Martial Medicines, and others to temper the great Heat must be given, such as the testaceous ones before mentioned, which imbibe the Acrimony, and Acidity of the Humors, Ivory, Crabs-eyes, Mother of Pearl, Harts-horn, &c. Whey with Tamarinds infused in it, or mixt with Antiscorbutick juices, may be drunk for some time.

C H A P. VII.

Of the Jaundice.

§. I.

Most names of Diseases given by the *Græcians*, are retained by the *Larins*. So the word *Icterus* came from the Greek *ixleq* Ⓞ, from the yellow Feathers in the Wing of a Bird so called, which in *Latine* they call *Galbula*, in *English* a *Wood-wail*, which is as probable, as *Amatus Lusitanus* his Derivation; *cent. 1. curat. 83. in schol.* that it should be called *Icterus* from *ixleq* Ⓞ a Kite, because Mens Eyes in a Jaundice look yellow with Bile, like Kites Eyes. *Celsus*, *Apulejus* and *Scribonius* call it *aurigo* and *auriginosa suffusio* from the colour of Gold undoubtedly, which Bile, when it has over-spread the whole Body, resembles; and so they call it *morbus regius* from Gold, which is the King of Metals. Other call it *arquatus* or *arcuatus*, from the various colours of the Rain-bow. In *English* it is called the *Jaundice*. It may be described to be, a *Cachexy* tinging the solid and fluid parts with a preternatural Colour, yellow or black, arising from the Acrimony of the Bile.

§. 2. A Case.

A Young man, twenty five years of age, of a sanguine and colerick constitution, at other times troubled with Hypochondriack and Colick Pains, when in Summer time after meat he had exercised himself overmuch, and likewise all the Summer long he delighted in sugared things, and very Aromatick Wine, after he had passed some Nights without Sleep, he Found a dulness of Body, and an itching in his Skin, especially in his Back, his Stools were white, and somewhat slimy, he made a troubled, thick and Saffron coloured Urine, so that it tinged cloth and paper, the white of his Eyes, his Temples, and all his Skin turn'd yellow, he had a bitterness upon his Tongue, was Thirsty, his Sleep was disturbed, and if he stirred much, he had a difficulty in Breathing.

§. 3. Part affected.

When we say, the solid and fluid parts of the Body are its Subject, we do not exclude the

the Spirits, those subtil Bodies (too fall under the sense of Seeing) subtil, to from the Cause of the Subject. I name only those Parts, that are apt to take the depraved Colour, which we see are both solid and fluid. Among the external parts we may accuse the whole Skin for the part affected, whose Cuticle the thinner and more pellucid it is, as in white skinned persons, of a clearer yellow the Jaundice will appear; and the thicker, the darker. The *ad-nata tunica*, which makes up the white of the Eye, may also be here affected, and so may the Nails, Lips, and Hair, as *Schenkius ob. l. 3.* relates out of *Cornelius Gemma*. Among internal parts affected, we reckon for the principal Subject the part which serves for the Secretion, Collection, and Discharge of the Bile, namely, the Liver, Gall-bladder, Choledochal Duct and the Pancreas. *Zacchias* also *quest. medicolegal. tom. consil. 15.* observed the Lungs in this Disease to be tinged with a citrine Colour. In a Man, forty years old, whom I opened at *Hanover*, I found not only all the *viscera* both in the Belly and Breast, but the very Brain, Bones and Cartilages tinged with an Icterick yellow Tincture. In opening other Bodies, that died of the Palsy, I have found sometimes Stones, sometimes viscid Phlegm, or some thing else in the biliary Passages, which stopped these Vessels.

§. 4. Diagnostick.

THe Diagnostick of a Jaundice in general may be taken, without more to do, from the Habit of Body and Colour of the u-

rine, especially if you look on the white of the greater *canthus* of the Eye, which is found first of all to be tinged yellow, a Sluggishness of Body always precedes, there is an Itching all over the Skin, especially in the Back, by reason of the Acrimony of the Bile diffused into the Pores of the Skin, and mixt with the *Serum*. The Urine between a yellow and red looks almost black. And there are such urines indeed in other Diseases; but here lies the difference: In a Jaundice if a linen cloth be dip't in the urine, and then dried, it retains its yellow Colour; and in other Diseases, if you dip a cloth in the urine and dry it, the yellowness flies away with the Moisture. Generally the Urine is thick, turbid, and little in Quantity, the Stools are whitish and hard, like *album Græcum*; because the ways are obstructed, by which the yellow Humor with the bile was carried to the Guts, and so the Excrements are not tinged. The Belly is generally costive, through Defect of Salt contained in the Bile, which used to vellicate the Guts and stimulate the Fibres to Excretion. The whites of the Eyes and Temples are yellow, because most of the volatil part is sublimed. The Mouth is bitter and thirsty, the Appetite decayed, there is an Oppression at the Heart and in the right *hypochondrium*, the Head akes, Sleep is troubled, the Hair sheds, and the Breath is short. The special Signs of a black Jaundice are said to be the Inclination of all the Skin to a black, brown, or livid Colour, there is a heavy Pain, Swelling or a Pain after much walking in the left *hypochondrium*, Sadness, Sloothfulness, Want of Sleep,

Sleep, Fainting, Urine enclining to a black, a costive Body, &c.

§. 5. Cause.

THE old Galenists say, the efficient Cause of this discolouring is either the abundance or depraved quality of the Bile, which diffuses it self either critically or symptomatically all over the body. The antecedent Causes with them are either a hot Intemperature of the Liver, in which case too much Bile is bred, or a Stoppage of the Choledochal Duct either by a too thick Bile, by phlegmatick Humors mixt with it, or by Stones, or whether it is, that these Ducts are compressed by the Humors of the adjoining parts, or that they are closed up, for want of Bile. They hold that the black Jaundice proceeds from black Bile or Melancholy; and therefore they blame the Spleen for breeding such a bad Humor, and they say, the proximate and conjunct Cause is the Effusion of Melancholy into the circumference of the Body. A cold and dry Intemperature of the whole Body, Liver, or Spleen or Inflammations and Apostems of the Spleen may breed or encrease Melancholy; and so may the frequent use of Melancholick things, the suppression of the Hemorrhoids, Grief and Care, the turning of Blood or Bile into black juice, either by Adustion or Congelation.

§. 6.

Paracelsus *lib. n. de icter. c. 1.* endeavours utterly to overthrow the Galenical Pathology about Causes, and boldly contradicts their Opinion, who ascribe

this Disease to Bile, since neither Sickness nor Colour comes from Bile, and to make it out, he denies that the Gall gives the icteritious Tincture, because there is no Tincture in it, nor in the Spleen, and the Bile is in the Guts. For he holds, that Colours arise from the Mixture of Salts; as we see Painters make several Colours of the Mixture of several mineral Salts. Therefore, according to him, the yellow Jaundice consists of an entalick Vitriol, and liquid Sulphur; and the black of *Myssop* Vitriol and dissolved Sulphur. But these things are so obscure, that we shall proceed to things that are better understood.

§. 7.

Helmont, as well as his Master *Paracelsus*, denies that the Bile is amiss, but holds, that the Jaundice proceeds from some fault in the digestive Faculty; because the liquid excrement is carried upwards, which should be purged downwards. He makes the Cause to be an anodyne Poyson, and its Residence is from the *pylorus* to the end of the *duodenum*, it stops, and so the Stone and Jaundice turn the Blood into yellow Poyson. And this is often caused by Grief.

§. 8.

Millis thinks, the Cause of a Jaundice consists in this, that Bile, separated in the Liver is either not sufficiently, or not at all, carried to the Gall-bladder, because the Ways are obstructed, but must of Necessity regurgitate into the Mass of Blood; and so he questions not, but it arises from

the Obstruction of the cystick Passage and common Duct and sometimes the whole Blood is in fault, when Bile is bred too plentifully and quickly in the mass by reason of its over exalted, sulphureous, and saline fixt Particles; so that it cannot be discharged soon enough the ordinary Ways: Wherefore this, parting from the Blood with the *serum*, is fixt to the solid Parts, and gives them its Tincture. Which is the reason, that the Bite of a Viper, and abuse of strong Drink are apt to cause this Disease; and for the same reason he thinks that a Tertian Ague may easily terminate in this Disease.

§. 9.

Sylvius harps much upon the same string. He holds, that the Bile is hindred in its Motion to the Guts, by Obstruction of the Cholodchal Duct, or by a too viscid pancreatick Juice. He supposes also, the Bile is bred and detained too long in the *cystis*, and that sometimes it undergoes a notable Alteration, which makes it move more impetuously and abundantly towards the Mass of Blood; yet it mixes not with it so well as it used; but is only blended with it, and so is apt to separate again from it, and to dy and tinge the solid parts with its Colour. And he questions not, but sometimes a Jaundice may be caused by poysonous volatil Spirits, mixt with the Bile and Blood. He proves it by the biting of a Viper.

§. 10.

THe Cartesians think, this Disease is bred, when Bile offends in the Figure of its Particles and in Motion. Then a due quantity of it is not discharged into the Parts for Excrements, which tarrying long in the Blood, and circulating with it, and its Figure not agreeing with the Pores of the parts, it tinges the Skin yellow, and breeds the Jaundice. By black Choler they understand, acid, sharp and gross Particles, which are in the same manner peccant,

§. 11.

We indeed, as most do, think, that in this Disease the Excretion of the Bile into the Guts is hindred, by the various Obstruction of the Liver and biliary Duct, and so it regurgitates, and is carried with the Blood all over the Body, and dyes it with its yellow Colour. But we likewise think, that there is some Viscidity in this yellow Humor, which not only causes obstructions in the vessels of the Liver and other parts, but through the habit of the body; and so this yellow humor stagnates there (otherwise the Yellowness would return by the lymphatick Vessels to the Blood, and would not overflow the Skin.) Nor is the Liver always affected with a hot intemperature, as is commonly thought: for this Disease depends upon the Obstruction, not only of the biliary Ducts, but of the Vessels of the whole Body, especially of the Skin; yea experience shows, that this Disease is bred in a very cold Intemperature.

And

And we do not only throw the procatarstick Cause of a Jaundice upon drinking Brandy or Strong Wines, but upon drinking cold Water, and eating viscid and cold Meats. Nevertheless we deny not, but this Disease may be caused by a volatil Salt, and the over Spirituosity or Fatness of the Bile. For sometimes the Blood is ill fermented through the Bile's fault; if the Bile or its Sulphur be too much exalted, corrupt or abundant, or if its sharp lixivial Salt be diminished or weakened, whereupon the Chyle cannot be well separated from the Excrements of the Belly, nor be disposed in a due manner for future sanguification; and so (as the Saying is) a fault in the first Concoction is seldom corrected in the second. Therefore sharp and sulphureous, or poisonous Particles occasion a Jaundice; thus we see a Jaundice is caused by the bite of a Viper: or when many such hot, sharp, or sulphureous Particles are mixt with the Mass of Blood, much Bile must arise from that Mixture, which cannot all be received by its Bladder, and then must needs restagnate into the Blood, and so be carried to all parts of the Body.

Moreover I do not question, but there is a Conglomeration of the animal Spirits in the orbicular Fibres of the Gall-bladder, which by thus spasmodically contracting the Gall-bladder causes all the Bile to regurgitate towards the *vena porta* into the Mass of Blood; and this may be done by an austere Humor stagnating about the Orifice of the Gall-bladder; nor do we exclude Stones, Worms, &c. When the Skin is dyed of a Blackish Yellow, it is a Sign of the black Jaundice,

in which case I suspect there is a fixt vitriolick Bile, which is able not only to tinge the Skin, but the whole body.

§. 12. Prognostick.

NOW we will go to the Prognostick. And hither belong the following Aphorisms of Hippocrates §. 4. aph. 62. *Those who in Fevers have the Jaundice come before the seventh day, it is bad, because the viscosity is greater.* Also §. 4. aph. 64. *They who in Fevers have the jaundice come on the seventh day, or the ninth, or the eleventh, or the fourteenth, it is good, unless the right hypochondrium be hard, otherwise it is not good; because the peccant Matter is expelled by violent crises, which scarce happens in our cold Countries.* He says also §. 5. aph. 42. *For such as are ill of the Jaundice, to have their Liver hard it is bad; because the Disease then is fixt and great.* A Jaundice, that is critical, goes away of it self, and so does that which is caused by the biting of venomous Beasts. But it is hard to cure one caused by a calculous or carnosus Obstruction either of the biliary Ducts or the *porus biliaris* in the Gut. It is exceeding difficult to cure one, that is loose in his Belly, or when the Disease is inveterate, or has grievous Diseases or Symptoms joyned with it, especially in Women with Child and old Men, or when it proceeds from an Inflammation, or Scirrhus of the Liver; or, as it was said, when it comes in Fevers before the critical day, especially if it appear without a cold Fit: for then it signifies some grievous Disease is bred in the Liver; and so it threatens

threatens other grievous Diseases, as the Dropsie, Cachexy, Consumption, and the like. The Jaundice is often mortal, if it proceed from a cold Cause, sometime also the lacteal Vessels are obstructed thereby, and then Patients die of a lingering Consumption. Now to the Cure, and first to the Dietetick.

§. 13. Dietetick Cure.

AMong the six non-natural things, the Air, since we cannot live a Moment without it, must be exactly observed, that it be temperate: we disapprove of a cold one; for Cold renders the Bile more Viscous, and so makes the Obstruction pertinacious. For the Air getting into the Fibres of the Lungs, and protracted for the Eventilation of the Heart, and creeping thence by latent Passages all over the Body, may do Violence to it.

The Patient must also use a sound Diet and easie of Digestion; let his Meat be seasoned with Capers, Endive, Parsly Root and other opening and inciding Herbs and Roots. Let him forbear all Meats that abound with Phlegm, such as are all that are viscous, Fish, Pulse, Summer Fruits, &c. and such as are apt to turn to Bile, especially such as have Honey, Sugar or Spice in them, and spirituous things, such as Brandy, &c. for these things fire the Blood and Bile the more. According to *Horrace Ser. 2. vers. 2.*

*Dulcia se in bilem vertent, stomachoque tumultum
Lenta feret pituita.*

Gluttony is hurtful: for the Disturbance of the Spirits, and the Fluctuation of the Viſuals after immoderate eating encrease, and a Man is never himself, if his Body be over crammed. The Patient may drink some aperient Decoction, or Physick Ale, and now and then take a Glass of good Wine.

He must neither move nor rest too much.

He must sleep in the Night and wake in the Day.

He must go to Stool either naturally or artificially.

The Passions of the Mind must be moderate, especially Anger, and Grief, which, as *Helmont* testifies hinders the Digestion not only of the Stomach, but also of the Bile.

§. 14. Pharmaceutick Cure.

NOW we will proceed to that, for whose sake all these things were premised, and that is the Pharmaceutick Cure. And first of all the Galenical Method was this. Since they accuse the Obstruction of the Passages of the Vessels, by which Bile, as they say, is carried out of the Liver and Spleen into the Guts; and it is thought that the Liver thereupon grows hot, and abundance of Bile is gathered, therefore they give a Clyster: for the Patients generally are costive, because the Bile does not descend, which uses to irritate the Guts. Then they render the Humors, that produce gross Obstructions, obedient to Nature by inciding and opening Medicines, such as Root of Gentian Parsly, *Asarum*, Fenil, Leaves of Fumitory, Ground pine, Sorrel, also Waters of Agrimony, Hops,

Hops, Dodder, Fenil, Cichory, Endive, and Decoctions made of these things, but I have no mind to give you any Receipts of them, because you may meet with them any where. Afterwards they carry off the prepared Humor by evacuating Medicines, such as Electuary of Juice of Roses, *diaprunum solutivum*, Tamarinds, *pilula de rhabarbaro*, Manna, Cassia and other Cholagogues. But if black Bile be peccant, they betake themselves to stronger things, namely Melanagogues, of which they make all manner of Medicines, Infusions, Decoctions, Powders, &c. according to the Indication of the Disease, the Intention of the Physician, and the Patient's Pleasure and Custom, admitting also of Vomits when there is Occasion. After all they commend Diureticks and Diaphoreticks, given in due time and manner.

Among Specificks *Capivaccius* commends an Infusion of filings of Steel. *Galen* gives *Asparagus* to People in a Jaundice. *Atius* gives earth Worms dried in an Oven powdered with Myrrh and other appropriate Medicines and he writes that so the Jaundice is the next day carried off by Urine. Some commend a Wolf's Liver for a Specifick.

Among Corroboraters they reckon *species diacurcuma*, *dialacca*, *diatrion santalon*, *diarrhodon Abbatis*, Treacle, Mithridate, Whey of Goat's Milk, a Decoction of Horehound, red Vetches, &c. the Dung of a Dog and a Goose. If it be the black Jaundice the Ancients commend the vulgar Splenericks as good Aperients.

S. 15.

Braccellus says, corrected Rhubarb is a most excellent Remedy for the Jaundice; and he corrects it with Oyl of Sweet Almonds. He writes *lib. de prep. 1.* that all Excrements and Dungs cure the Jaundice. In *lib. de thermis* he commends *Sal gemm* and Tin for the Cure of this Disease. He says that all things which cure the Jaundice come from *Mercurius Veneris*. He says Juniper Berries and black Cherry Water are good in the Jaundice. *l. de Ictero c. 3.* He magnifies a Lizard sowed in a Bag and a Spider, for curing a Fever and Jaundice. He writes likewise that Horses Dung, made hot and given the Patient, cures a Jaundice, and so does ones Urine put in a Bladder and hung nine Days in the Smoak.

The modern Hermeticks Commend Spirit of Vitriol, Salt, Tartar, with Saffron. *Crallius* commends Oyl of Amber, *basil. chym. p. 193.* given in Water of Endive, Dodder, Cichory, or Celandine. They reckon up several Specificks, We shall only slightly mention the chiefest of them, and they are Celandine, Root of Turmeric, Rhubarb, Saffron, the yellow Stone found in the Gall of an Ox, Root of *Anchusa*, the yellow Skin of Hens Gizzards and Feet, the Patient's Urine drunk with Juice of Horehound, Earth-worms, Dogs Dung and Goose Dung especially if she be fed with Celandine, Goat's and Horse Dung, the Ashes of Sparrows Feathers, the Brain of a Partridge, Lice, Buggs, Beetles, a Tench applied alive to the Navil, till it dies, and some of them sow a live Lizard

Lizard in Cotton Cloth, and hang it about their Neck, and so they do with a live Spider.

§. 16.

According to **Belmont** any thing cures a Jaundice, which extinguishes that Poyson, which changes the Blood yellow; all *Alkalies* are Antidotes, as are *Millepedes*, Worms, Lice and other Insects, inasmuch as they destroy the Poyson that alienates the foresaid Faculties. Not that those Worms or Simples presently open the Gall-bladder. Nor can we imagine that a bite or sting in the Skin can presently shut the passage of the Gall into the *intestinum jejunum*. But the virulence does so disaffect the *pylorus*, that the digestive and distributive Faculty is presently alienated; and therefore it is, that one bitten with a Viper turns presently *Icteric*. Wherefore according to our Author the Jaundice is cured by applying Flowers of Corn-Marigold, Dandelion and several such things, and frequently by some Antidotes that are agreeable to the *pylorus*. And Rhubarb, Saffron, Turmeric, and Dock do not cure because they are Yellow, but inasmuch as they are good for the detersion of the Poyson. He cries up Salt of Urine, as the highest and most approved Medicine for curing the Jaundice. So likewise a Pike Fish applied alive to the Stomach kills the Poyson.

§. 17.

U This his Cure of this Disease is performed by an exact method, which proceeds according to three Indications. 1. To

remove the Obstructions of the Ducts or *porus biliaris*, or cystick Passages, or Choledochal Vessels. 2. To reduce the Blood to a due temper, that it breed not Bile beyond measure, or make it unfit for Secretion. 3. To preserve Strength, and help the Symptoms. That he may satisfy the first Indication, he prescribes Purgatives, by which the descent of the Bile may be irritated towards the Intestines, and the obstructed Vessels may be cleared; to which end he advises Vomits, that is, while the tone of the *viscera* and the Strength are good: for by these the loaded Stomach is eased of much viscus Phlegm, and likewise by irritating the Choledochal Vessels and violently shaking all the hepatick Ducts, they clear their Obstructions, and so the Bile endeavours its passage by the usual Ways. Among these Vomits he highly values *crocus metallorum* with Wine or *Oxymel* of Squills, or Powder of *asarum* half a Drachm with *fecula Ari* and *tartarum vitriolatum*, or *gum gutta* eight Grains with *tartarum vitriolatum* six Grains.

Among Purgers he prefers before all others half an Ounce of the Electuary of Juice of Roses, or half a Drachm of Rhubarb with Salt of Wormwood and Cream of Tartar each half a Scruple. If you have a Mind to an Infusion or Apozem, you may consult the Author. He also gives the following Powder;

Take of the best Rhubarb from half a Drachm to a Drachm, Salt of Wormwood one Scruple. Mix them. Make a Powder.

These

These things premised, the Author passes to Deopillatives and Specificks, which are either Diureticks or Diaphoreticks, inasmuch, namely, as such Medicines promote the Secretion of the Bile from the Blood, and when it is separated, urge its passage through the Ducts of the Liver, and discharge the bilious recrements by Sweat and Urine, such as Tincture of Antimony or *Elixir proprietatis Paracelsi* an Ounce, giving twenty Drops at a time. *Mixtura simplex* and Salt of Tartar are proper. This excellent Author cries up the Virtue of Gesner's *antiick* in this Disease;

Take of the Root of large Nettle one Pound, Saffron one Scruple. Bruise them well, and extract the Tincture with white Wine. The Dose is four Ounces in the Morning for four Days.

He highly values also this following of *Jole's*;

Take of the Root of greater Celandine sliced two handfuls, Juniper berries one handful. Bruise them, and pour a pint of Rhenish Wine to them. Draw the Juice. The Dose four Ounces twice a Day.

I find the following Pills approved by the Author;

Take of Powder of Turmerick, Rhubarb each one Drachm and an half, middle rind of Capers, Root of *asarum* each half a Drachm, extract of Gentian, lesser Centaury each one Drachm and an half, Salt of Wormwood half an Ounce, Seed of Cresses

half a Drachm, Rocket half a Scruple, *elixir proprietatis* half an Ounce, gum Ammoniack dissolved in *aqua lumbricorum* what is sufficient. Make a mass for Pills, and let it be made into small ones. The Dose half a Drachm Morning and Evening.

Among Specificks and things appropriate to this Disease he commends Earth worms, Goose and Sheeps Dung, Millepedes either in form of a Powder, or squeezed out with Celandine water, and this expressed Juice may be drank twice a day for a Week. And by reason of their Volatil Salt he cries up the vulgar and empirical Remedy, to wit, nine live Lice. And for the same reason he commends flowers of Sal Ammoniack, Salt of Amber, Harts-horn, Soot, Spirit of Harts-horn tinged with Saffron from fifteen Drops to twenty. He holds that Chalybeates and Spaw waters do good.

Among Externals and Sympatheticks he extols a live Tench applied to the Icteric's right *hypo-chondrium*, or to the Soles of his Feet. He has also known this Disease, when inveterate and deaf to other Remedies, has been cured by the secret way following;

Take of new made Urine of the Icteric Person, all that he makes at one time, ashes of Athen wood sifted a sufficient quantity. Mix them and reduce them to a Mass, which must be made into three Balls of equal bigness, and set in a warm place near a Fire or Stove: As these Balls grow hard, the Jaundice wasts away.

He

He commends the following mixture for a Cordial.

Take of *aqua mirabilis* eight Ounces, *lumbricorum* four Ounces, Syrup of Orange Pill one Ounce.

If Pain is violent, he flies to Anodynes,

§. 18.

Sylvius thinks the Cure of the Disease consists in this; that the remote causes be avoided, to wit, grief of mind, excess in strong Wines or Brandy. One must shun, as he would Poyson, whatever alters and vitiates the Bile, that is, the viperine matter must be corrected, and brought into the Guts: also the viscid Phlegm, that obstructs the Choledochal Duct, must be incided and carried off: for inciding whereof all Aromatics and Volatil Salts are proper; and for carrying it off, divers Purgatives, Rhubarb, &c. but he says the following Decoction exceeds them all;

Take of Root of Mather, greater Celandine, Parsly each half an Ounce, Flowers of Broom half an handful, Seed of Columbine, Parsly, Anise each two Drachms, crude Tartar a Drachm and an half. Boyl them in white Wine and fair Water each what is sufficient. Dissolve in the Colature of Syrup of Diacnicum, of Cichory with Rhubarb each one Ounce and an half. Mix them.

Let the Patient take twice or thrice a Day as much of this Apozem as will give him two or three

Stools in a day, and so make him void the Bile with the Phlegm. If this Disease had its rise from the Poyson of the Viper, Sudorificks abounding with a volatil Salt are proper, such as *Andromachus* (commonly called *Venice*) Treacle, Trochiscs of Vipers, *antimonium diaphoreticum*, *bezoarticum minerale*, &c.

The Author's Empirical and Specifick Remedies are Hemp seed boyled in Cows Milk till it burst, and strained: let the Patient drink five Ounces of this Decoction three or four times a day. Also a Drachm of *Venice* Soap dissolved in warm Milk and sweetned with a little Sugar, given twice a day. He gives a great *encomium* to Tincture of Saffron made with a volatil Spirit. He values *opium* it self, as a powerful Conqueror of the animal Spirits, and as it is oily and fat; for he does not question but fat and oily things do bind the animal Spirits, and Cure the Jaundice; and he confirms this by fixt and anodyne Sulphurs of Minerals and Metals their gently fixing and appeasing of volatil Spirits. For taking away the yellowness of the Skin he commends the following mixture;

Take of Water of Grass, Wormwood each two Ounces, Tincture of Saffron, Spirit of Sal Ammoniack each half a Drachm, *bezoarticum minerale* one Scruple, *laudanum opiatum* three Grains, Syrup of Fenil one Ounce. Mix them. Give a Spoonful of it often.

If the Patient sweat, the Cure may the sooner be expected; but if much red Matter be voided by Urine, and a little after scrole, it will prove slower.

§. 19.

W^h^e and the Cartesians proceed in this Method.

In the beginning we do not approve of Purgatives; and Rhubarb or Senna must not be boyled, as some would have them; but the Purgative Virtue is rather to be got out of them by Infusion, otherwise Particles are fetcht out, which after purging bind the Body again, which may prove very inconvenient and prejudicial. The following Apozem therefore will be useful, with which I always begin the Cure;

Take of Dandelion, the greater Celandine each one Ounce, Leaves of Cichory, Straw-berry each one Ounce and an half, Horehound half an Handful, white Tartar, Leaves of Senna three Drachms. Infuse them in Wine and Water equal parts. Boyl them to a Quart. And strain the Decoction. Or,

Take of Leaves of Horehound, Dodder, greater Celandine, Southernwood, Goose-grass, Flowers of St. John's wort, Columbine each half an Handful, Turmeric three Drachms, monks Rhubarb two Ounces, Leaves of Senna one Ounce, Cream of Tartar three Drachms, Root of greater Celandine one Ounce. Make a Bag. Or,

Take of Wood of Sassafras half an Ounce, Guajacum rasped, the bark of the same each five Drachms, China seven Drachms, Sarsaparilla ten Drachms, scraped Liquorice three Drachms, Root of greater Celandine one

Ounce, Turmeric half an Ounce, Leaves of greater Celandine two Handfuls, Vervein, Betony, Bawm each half an Handful, the whitest crude Tartar half an Ounce, seed of Anise two Drachms, Hemp five Drachms, Fenil one Drachm. Make a warm Infusion for a Night or more in a double Vessel well stoppt, and in a sufficient quantity of Rhenish Wine make a gentle Decoction. To one quart of the Colature add of Honey of Squills one Ounce and an half, Salt of Wormwood one Drachm, Spirit of Sal Ammoniack one Drachm, *aqua vitae Matthioli* an Ounce and half. Mix them. Make an Apozem.

By this we may very well incide gross Humors, that stop any Passages, and carry them off, since Phlegmatick Humors cannot conveniently be carried off without previous preparation. A Decoction of opening Herbs and Roots, such as the greater Celandine, especially if Goose Dung be added, is very effectual in this case; here follows a Composition;

Take of Root of Cichory, greater Celandine, Mather each three Drachms, Leaves of Celandine, Dandelion, Ground pine, Agrimony each half an Handful, seeds of Anise, *daucus*, Caraway each one Drachm, Goose Dung gathered in the Spring time, Sheeps Dung each half an Ounce. Boyl them in a sufficient quantity of Water to half a Pint. In the Colature dissolve of Syrup of Cichory with Rhubarb half an Ounce. Mix them. Or,

Take of Straw-berry Leaves with the Roots three Handfuls, Currans

rans three Ounces. Boyl them in a sufficient quantity of fair Water. Make a Potion.

Or the Patient may make an Infusion of Celandine in Wine, and drink a draught every Morning. When the Patient has taken some of these things, he may be purged in manner following ;

Take of *Electuarium diacatholicon cum succo rosarum* one Drachm and an half, choice Rhubarb, from half to a whole Drachm, *Mercurius dulcis* six Grains. Mix them. Make an Electuary. Or

Take of our Tincture of Rhubarb made with Salt of Tartar, Endive and Cichory Water, and give of it from half to a whole Ounce.

And because I have often found Aloeticks do good, the following Pills may be given ;

Take of extract of Aloes twelve Grains, Resin of Scammony three Grains, *Mercurius dulcis* ten Grains, Oyl of Mace one Drop. Mix them. Make Pills. Or in form of a Powder ;

Take of *pulvis laxativus* one Scruple, Magistery of Jalap, Scammony each three Grains, Cream of Tartar ten Grains. Mix them. Make a Powder.

And Clysters made of Aperients are good to open the Choledochal Duct. If viscid Bile be lodged in the Stomach it will be the safest way to give a Vomit, and Diaphoreticks with it, that we may kill two Birds with one Stone ;

Take of *tartarum emeticum* two or three Grains, Diaphoretick Antimony six Grains, Salt of Wormwood two Grains. Mix them.

Finally all things are good, that are digestive in the Blood ; such as *tartarus nitratus*, precious stones, Pearl, Crabs Eyes, especially if there be any austerity in the Blood or Bile. Then some Steel may be given, such as the following Electuary ;

Take of prepared Steel one Ounce, *species diarrhodon Abbatis* half an Ounce, Salt of Wormwood half a Drachm, with Syrup of Vinegar and Cichory each what is sufficient. Make an Electuary. The Patient may take a Drachm of this Electuary every Day for twelve or fifteen Days.

Take of Tincture of Columbine flowers, *spiritus aperitivus Penoti* equal parts. Mix them.

But if there be no austerity, these things would not be so proper ; but then the Obstructions should be cleared by convenient Aperients, for which end I communicate the following Specifick as a Secret ;

Take of Goose Dung gathered in Spring time and dried in the Sun, Chicken Dung each one Drachm, *Lapis fulminans* half a Drachm, Salt of Wormwood two Scruples, Powder of Cinnamon one Scruple, Sugar one Drachm and an half. Mix them. Make a fine Powder. Divide it into four equal parts, let the Patient take it every Morning fasting, having premised Univer-

fals. I have seen the Jaundice perfectly Cured by it. Or ;

Take of the Skin of the Gizzard and Feet of a Hen and a Goose one Drachm, Volatil Salt of Urine, Worms, greater Celandine each one Scruple. Mix them. Make a Powder.

Dungs also are good, Sheep's, Asses, Goats, Dogs and Horses infused or boyled in Wine: for the excrements of these Animals are wholly nitro-sulphureous; wherefore they have an admirable inciding, attenuating and dissolving faculty; and they retain the virtues of the Simples, on which these Animals feed, which by concoction in the Stomachs of these Creatures are turned into a kind of quintessence: and therefore they are so effectual in the Cure of several Diseases.

The Salt also of the *caput mortuum* of Viuriol exalted by iterated Cohobations, Spirits and Salts of Urine and Sal Ammoniack are excellent Deobstruents. We magnifie the volatil Salt of Worms, Sows, Beetles, &c.

The acid Spirit of Sal Ammoniack and Mars have an admirable Virtue against this Disease. These two Spirits combined may be dropt into the ordinary drink, so as the Acidity can scarce be discerned; by this Remedy alone I have cured several. Volatil Salt of Tartar, *tinctura tartari antimoniat*a, common Spirit of Salt, *spiritus aperitivus Penoti*, *crocus Martis aperitivus* &c. are Specificks.

And fixt Diaphoreticks are proper, if they have also an opening Faculty, and either subtilise and incide or soak up the Mucilage of

the Humors, which thing tartareous, saline and antimonial Medicines are able to do. *Mindererus* commends half a Drachm of Powder of Sow-bread in mulled Wine. We also recommend Diureticks in this Disease, as having absterfive Salts in them, that correct the Viscidity of the Bile, and carry it off by Urine: for in icterick Urines beside the yellow Tincture we see abundance of Contents, which require to be carried off. Wherefore when once there is an alteration in the Colour and the tartareous Contents, we may reckon the Disease is in the Declension. Here are some Receipts;

Tincture of Saffron made with volatil Spirit of Urine about fifteen or twenty Drops is an excellent Medicine. Or ;

Take of Spirit of Tartar, Sal Ammoniack each one Scruple, *antimonium diaphoreticum* half a Scruple, Rob of Elder one Drachm, Water of greater Celandine one Ounce, Cinnamon half an Ounce. Mix them. Make a Potion. Or ;

Take of *antimonium diaphoreticum*, *martiale* half a Scruple at a time. Or ;

Take of Salt of Urine half a Scruple, volatil Salt of Amber five Grains, Crab's Eyes half a Drachm. Mix them. Make a Powder for one Dose.

Among other things these are good, *spiritus Penoti aperitivus*, *liquor spleneticus Schroderi*, *arcanum Tartari*, &c.

Sometimes this Disease follows Fevers, and it signifies there are Obstructions, which when they come upon Fevers, must needs be bad; yet sometimes it is critical in Fevers, and then it is not so bad. Roots of Cichory with Currans, eaten instead of Lettuce at Supper are good.

There is nothing better for the Stomach in this Disease, than the fat of a Dog or a Viper distilled, which has often done good, when all things else signified nothing. But if there be any Suspicion, that the Jaundice proceeds from a Conglomeration of the animal Spirits at the Gall bladder which strains and spasmodically affects it. To this end Cinnabarines will be good, especially half a Scruple of our *cinnabaris solaris* with six Grains of Sal Ammoniack. Also *balsamus nervinus*, Spirit of Sal Ammoniack tinged with Saffron, *liquor cornu cervi succinatus*, and other Nervines will be very good.

If there be swooning and the strength much decayed, the following mixture will be proper;

Take of Water of lesser Centaury, Fumitory, Strawberry, Pearl each one Ounce, Cinnamon six Drachms, Shavings of Ivory prepared, Harts-horn prepared, Tincture of Saffron each one Scruple, *spiritus salis dulcis* half a Scruple, Syrup of Cinnamon six Drachms. Mix them. This mixture must be taken a Spoonful at once.

As for Externals I have so often been deceived by them, I shall not so much as mention them. Only among the magnetick Cures I have several times experienced this fol-

lowing, for which I could never yet imagine a reason; Let the Patient piss in some brass Vessel, save the Urine three days, then boyl it over the Fire, and when it is boyled, pour it into running water, not standing.

The black Jaundice being a desperate Disease requires the noblest Medicines. At the beginning the following antiistherick Decoction of the famous *Wedelius* is proper;

Take of the five opening Roots, Mather, Cichory each two Drachms, Leaves of Agrimony, noble Liver-wort, Strawberry, Fumitory, Horehound, lesser Centaury, Wormwood each half an Handful, Flowers of St. John's-wort two Pugils, yellow Sanders one Drachm, Saffron half a Drachm, Cinnamon one Drachm. Boyl them in Water and Wine as much as is sufficient.

Also with *Forestus* his Bag I lately cured a Maid successfully of this Disease;

Take of Root of Mather, Rhapontick, greater Celandine each half an Ounce, Rhubarb, Turmeric each two Drachms, *trochisci de eupatorio* one Drachm, Saffron one Scruple, Leaves of Strawberry, Horehound each one Handful, Schoenanth half a Drachm. Cut them, and put them in a Bag for a measure of Wine.

She likewise took the following Mixture;

Take of *aqua polychresta*, *aperitiva*, *hepatica Mynsichti* each four Ounces, Cinnamon half an Ounce, Essence

Essence of the greater Celandine two Drachms, *spiritus salis Ammoniaci anisatus* one Scruple, *syrupus de duabus radicibus* two Ounces. Mix them.

And here all sharp volatils Salts are proper, whereby the corrupt and excessive Oyliness of the Bile is taken off, and on the contrary its dull and pontick Salt is sharpened, and the Acidity of the Pancreatick Juice is corrected. Beside these saline Spirits tempered with Oily things are proper, such as Spirit of Urine or Worms mixt with Essence of greater Celandine, Southernwood, lesser Centaury, Turmeric and Dandelion; the Spirit also of Wheaten or Ry Bread is good to restore a due *Crisis* and tincture to the Blood, when it is spoyled. They say, that *lapis fulminaris* and the cast skins of Serpents are Specificks in this Disease, perhaps because they imbibe the Acid, that lies in the first ways. Martial Medicines are good: there *pulvis Langianus*, so much commended by *Simon Paulli*, will be proper.

Take of Filings of Steel one drachm and an half, Seed of Cloumbine one Scruple, Powder of Earth-worms half a Drachm. Mix them. Make a Powder.

All bitter things and Spleneticks are of great virtue in this Case. Also to recover the *Crisis* of the Blood the following destilled Antisterick Water may be prescribed;

Take of root of Alkanet, Mather, greater Celandine, Turmeric, Chery, sharp pointed Dock, A-

sparagus each half an Ounce, Leaves of Agrimony, German-der, Strawberry, noble Liver-wort, Flowers of Marigold; Broom, St. John's-wort, lesser Centaury each one handful, the yellow inner rind of Berberries, Tamarisk each half an Ounce. Ivy berries one Drachms and an half, Earth-worms, *Millepedes*, May Beetles each three drachms, Goose and Hens dung gathered in the Spring each six Drachms, Saffron half an Ounce, Infuse them in Wine and Water of the greater Celandine each one pint. After four days destil them according to art in Glass Organs. Let the Patient take three Spoonfuls of this Water in the Morning, and at four in the Afternoon every day. Or;

Take of root of Alkanet, Mather, Smallage, Bitter-sweet, sharp pointed Dock, greater Nettle, *Asparagus*, Turmeric, greater Celandine, Leaves of Agrimony, lesser Centaury, Maidenhair, *Carduus benedictus*, German-der, Strawberry, Dodder, Flowers of yellow Ox eye, Marigold, Columbine, St. John's-wort, middle rind of Berberry, Elder, Tincture of Rhubarb, Rhapontick, Filings of Steel, Earth-worms prepared. Infuse them in Water of Southernwood, Dodder, Endive, and Wine. Destil them. This Water, for its egregious and appropriate virtues, may be called *aqua cystica*.

When these things will not do, you may go to the Mineral Waters. These are Empirical Medicines.

Three drops of the Gall of an Hyena taken in greater Celandine Water

Water is cried up by the Greeks as a never failing Medicine.

The Heart also of a Wren eaten, is said to cure the Jaundice.

A Drachm of the Powder of a Parrot taken, cures any Jaundice. So likewise it is remarkable, that the Liver of a Sea Tortoise bruised

with Water of greater Celandine and drunk, cures the Jaundice.

The following experiment will scarce ever fail you. Put the Patient's Urine in a Pot, cover it with a Tile, boyl it half away, and hide it in Horse Dung.

CHAP.

CHAP. IX.

Of the Dropsy.

§. 1.

THe Dropsy is called *hydrops*, *hydropisis*, *aqua intercus*, and by Celsus, *morbis hydropicus*. Paracelsus calls it *ros humidus*, and *sal* or *liquor resolutus*, to distinguish it from simple usual Water. The Dropsie in general denotes a serous gathering; if in the Head, it is called *hydrocephalus*; if in the Breast, *hydrops pectoris*; if in the Belly, *ascites*; if in the Cod, *hernia aquosa*; if in the Womb, *hydrops uteri*; if in the whole Habit of the Body, *anasarca* and *leucophlegmatia*; if the Belly be swollen with Wind, and sound like a Drum, it is called *tympanitis*.

But here we shall consider three sorts principally, viz. an *ascites*, an *anasarca* or *leucophlegmatia*, and a Tympany. And we will begin with an *ascites*, in which a serous matter gathered in the *abdomen*, and contained either in the *hydatides* or in the *omentum*, *peritonæum* and Muscles of the *abdomen*, strangely distends it, and sometimes the *scrotum*, or the *pubes*, Thighs, and Legs; wherefore it is called *ascites* or *uricularis*, because the Belly is like a Bouget filled with Water.

A Dropsie in general is defined to be, A swelling of the whole Body, but generally of the Abdomen; with a Collection of watry or flatulent Matter.

§. 2. Part affected.

THe Ancients, some of them took the Liver, others the Mesentery, some the Spleen, for the part affected: Some of the moderns take it to be the *intestinum jejunum* and its lacteal Veins: We blame the whole Body, the *genus venosum*, & *nervosum* especially. But we think, that for the most part the *Omentum* is affected in this Disease, and its Vessels are broke; and so all potulent Matter returns into the Cavity of the *Abdomen*: for it is my opinion, that all potulent things pass through the *omentum* to the Kidneys. Therefore such creatures as have no *omentum* make no Urine, as Birds; Fish, &c. Besides all hydropical People upon dissection are found to have their *omenta* rotten, or torn or full of swellings. At Hanover one wedding, an Herniotoromist, cut a *hernia omentalis* out, but cut a great part of the *omentum* with it: and the Patient complains of a

Great Difficulty of Urine; if he drink much, he has a pain at his Stomach, and is always loose. Which makes me think, that some of the Vessels which carried the Urine streight to the emulgent, were cut off: therefore all that is potulent passes to the *duodenum*, and there hinders Fermentation of the Meat, and makes the Fibres lax. And there is something more, which makes it very probable that all that is potulent, passes not by the Guts into the lacteal Veins, and by the thoracick Duct to the Heart; because the *pylorus* of the Stomach is turn'd upwards, that no potulent Matter may run out. Surely therefore potulent things go to the bottom of the Stomach, and parts where it is joyned to the *omentum*: and if its Vessels be broke or swelled, the Potulent Matter must of necessity fall into the Cavity of the *abdomen*, and cause a Dropsie.

I make no question likewise, but when the Spirits do not well irradiate those parts, and open the Pores of the Stomach, a dropsie may arise.

§. 3. Diagnostick.

AN *Ascites* is easily known: for in it the *abdomen* is very much swollen, and daily encreases, especially after eating and drinking plentifully. I have observed the Swelling to encrease and decrease with the Moon. Usually the *pubes*, Thighs, and Legs swell in both Sexes, and in Men the *scrotum*, by the natural bursting of which I saw a Souldier cured, who voided above forty Pints of Water. When they turn themselves in Bed they sometimes, tho not always, find a Fluctuation from one side to the o-

ther. There is Difficulty of Breathing, because the Diaphragm cannot play. Their Body wasts and grows thin. They have always a cough, sometimes dry and sometimes moist: for now and then the water gets to the Lungs. Sometimes there is a slow hectic Fever, because the Blood being robbed of its *serum*, and not diluted, with new Chyle, grows thick, rough and acid. Their Urine is generally red, with a thick Sediment, their Face looks yellow as if they were in a Jaundice. *Franciscus de Porta* does elegantly sum up all the Signs, *de sign. morb. l. 3. c. 12.*

*Hydropem fœdus color arguit,
& tumor ingens.*

Et sitis, & dyspnœa, cibique a-
versa cupido,

Occupat & varias inflatio tur-
gida sedes.

Sometimes, though not always, the appetite is lost, there is Nauseousness, Vomiting, Looseness, running Ulcers in the Legs and Arms. They are insatiably thirsty, and the more for drinking. For,

Quò plus sunt potæ, plus sitiun-
tur aquæ.

§. 4.

AN *anasarca* or *leucophlegmatia* is known by a lax Swelling of the whole Body, which is soft and usually pale and the Limbs pit. Patients are not always so thirsty as in an *ascites*. It is easier to be cured than an *ascites*. In a Tympany the Face does not recede so far from its natural State, & here the Swelling of the *abdomen* with Wind especially contained in

in the Guts, and with extravasated serum, is so great, that when the Belly is hit, it sounds like a Drum. For a Tympany seldom goes alone, but has Ordinarily an *ascites* attending it; though there may be a Tympany alone, as Experience lately taught me in a Girl of nine years old, in whom there was not one drop of water or serum in the abdomen, but both the abdomen and Guts were distended, and gave a plain sound. But three Symptoms do always attend this Disease, Shortness of Breath, Paucity of Urine, and violent Thirst.

§. 5. Cause.

According to the Galenists, the proximate immediate efficient Cause, is Matter not fit for Nutrition, which is serous pituitous or flatulent, gathered in the Cavity of the lowest Belly, or between the Skin and Flesh, by its abundance distending the parts of the Body. The Propinquous antecedent Cause is the frustration of Sanguification proceeding from coldness of the Liver. And this coldness may be produced by an over cold Air: therefore Hippocrates. aph. 22. §. 3. says, that Dropsies come in Autumn. Too much taking of cold things, especially drinking of cold and foul water after bathing or being in the heat of the Sun, cools the Bowels exceedingly. All manner of excessive Excretions, and Bleeding may cause it, Galen. l. 4. de præsag. ex puls. blames the Spleen, and a scirrhus of the Liver. Some blame the breach of a Vein, or of Bladders full of water which fill the abdomen. Some think it runs in by the breach of the umbilical Vessels. Some, by the Ureters being bro-

ken; others hold that water may get into the abdomen by occult as well as manifest Passages.

§. 6.

According to Paracelsus the Cause of a Dropsie is an Aluminous Tartar. He calls a Dropsie *spilt Water, spilt Liquor, a moist Dew*, and he affirms, it is nothing else but Water. He compares it to Rains: for as in the Macrocosm a Man is drowned by an Inundation; so in the Microcosm the Spirit of Life is drowned by Water. This Dissolution of aluminous Salt arises from the impression of the microcosmical Heaven and its Stars. He makes seven kinds of Dropsies, viz a Dropsie of the Liver, Spleen, Lungs, Brain, Gall, Kidneys, and Heart. He denies, that the Tympany is one kind of Dropsie; but he says it is a stoppage of the Belly; and Wind is caused, when nature has no vent. He makes two Tympanies, one of the Guts, another of the Womb. Though in truth the stoppage of the Belly is not a Dropsie but the Wind-Colick; and the Tympany of the Womb is the inflation thereof.

§. 7.

Helmont blames the Spleen and not the Liver; because in many that died of a Dropsie he has found the Liver sound. He boasts how he has cured two thousand dropfical People, whose Urine was of a bloody black Colour, and they made not above a Spoonful in one Night; whose Liver if it had been bad, he confesses he could never have cured them. So dysenterick Persons and great drink-

kers fall into the Dropsie, not through any fault in the Liver, but because some Blood gathers in the convex part of a Gut. He holds, there is a three fold Matter. First, extravanated Blood. Secondly Water in the *abdomen*, which is a morbid product. And he says, there is a third Matter which has its internal efficient in the internal vital Principles of the *Archæus* of the Kidneys. For he holds, that there is a certain virulent anodyne Quality in extravanated Blood, or in some such Matter, which makes the Kidney forget its Office of separating the *serum* and so sends it back to the Belly. In a Tympany he says, that Wind proceeds from a certain indisposition of the local *Archæus*, which turns Meat, that is no way Windy, into Wind.

§. 8.

Allis thinks that an *ascites* proceeds from mere Water, which fills the parts in the lower Belly, and besides the Membranes are distended by the disorder of the Spirits, and so the Swelling increases. For in an *ascites* sometimes the Water so fluctuates, that the Patient can feel it. Then, when the *viscera* are so soaked in the *lymphæ*, they rot, and their *parenchyma* and the Coats of the Vessels and Glands swell, so that all put together they amount to a large Bulk. He thinks also that the *serum* too much separated from the Mass of Blood may cause an *anasarca*, in which he maintains that the *serum* is poured out of the Mouth of the Arteries into the Skin. He also blames the chyle poured out of its proper Vessels.

§. 9.

Sylvius holds, that an *anasarca* comes from a thin, watry and salt *serum*, poured out of the lymphatick and lacteal Vessels, supposing Obstructions by a viscid Humor to be the most usual Cause of a Dropsie, which is attended by a stagnation of the *lymphæ* or Chyle; but especially of drink in the Vessels, and then by a breach, and Effusion of what is contained, into any place capable of it.

§. 10.

The Cartesians hold, that the lymphatick Vessels are broke by some hard thing, either pricking or cutting them, so that the *lymphæ* in an *ascites* is poured into the Belly; and in an *anasarca* into the whole Body. For when water in the *abdomen* grows thick, then the *superficies* of all the *viscera*, yea, the *peritonæum* and Muscles of the Body are beset with a Coat, which hinders the Vapors produced in the Body from being insensibly evacuated; hence it is, that it is so difficult to make such Patients sweat; but we find, if a sharp and inciding Clyster with some sudorifick Salt in it be given, and the Pores of the Guts thereby opened, when the pituitous Coat is removed, there is a great discharge of Water out of the *Abdomen*.

§. 11.

Now we will examine the causes of the Dropsie: and we will begin with an *ascites*. The cause therefore of this Disease is ordinarily

ordinarily the *lymph*, Chyle, or too much Drink, and sometimes *serum* separated from the Blood, that is, when the Mass of Blood, being deprived of its volatil Salt, breeds nothing but *lymph*, which either by Stagnation or Acrimony distends or breaks the Vessels. It is very rare, that the Stagnation of Urine causes this Disease, for I have known several die of a Stoppage of Urine, without any such Inundation. Generally the cause of this Disease is a weakness in the Blood, which makes it insufficient to turn the Aliment into its Substance, and so must of necessity throw it upon other parts. The proximate continent cause is the opening of the Vessels, especially of the *omentum*, either because drink, or the *lymph*, or Chyle, do abound or are over thick, or move too violently, or because by their Acrimony they eat through the Vessels, or because they continually press upon the Vessels, that were obstructed before by gross and pituitous Humors, or by the Humors of the Glands of the Mesentery and *omentum*, which at last burst, and so run out. I opened a young Man, in whom I found all the Mesentery and *omentum* full of Humors and *scirrhi*; and the Liver sound. And he had been a great Water drinker, which occasioned his Dropsy. The antecedent Cause is partly a serous Cacochymy, partly Phlegm, partly a perverse Texture and Structure of some Parts, and partly a weak Influx of animal Spirits upon the cutaneous Fibres; for according to this influx there is either a too great Stricture or Relaxation of the Skin. And when the cutaneous Fibres are too much contracted, Sweat

and Transpiration are kept in, and so of necessity Vapors are condensed in the Body, at length the *serum* is encreased, and then a Dropsy ensues. The procatactick Causes are various, but chiefly Drink, either watry, spirituous, or thick, impure, and turbid, when it is taken in excess. Because by its coldness, it makes the Humors thick and immoveable, destroys the natural Ferments, and contracts the excretory Pores, so that sometimes vomiting follows cold Drink, when the Pores of the Stomach are so contracted by Cold, that the Vapors which used to pass by these Pores, do not pass, but by distending the Stomach, and by sticking in the Fibres, and vellicating them, do cause Vomiting. Milk Meats eaten unmeasurably or unseasonably occasion it, also taking cold when the Body is hot, Diseases of the Mind, Melancholy, Grief, &c. the Jaundice, a Fever, some Excretions either augmented or suppressed: *augmented*, as over-vomiting, a continual Looseness, excessive *Venus*, too great expence of Blood: *suppressed*, as the *Menstrua*, *lochia*, Hemorrhoids, Bleeding, *Fistula's* and the like. To these may be added some Diseases, that usually attend an *ascites*, as a Consumption, Quartane Ague, the Jaundice, a *Scirrhus*, Inflammation or Ulcer; Obstruction of the Ureters, &c.

The Cause of a Tympany is Wind pent up in the Stomach, Guts, or *Omentum*, which thereupon distends the *Peritonæum*.

The antecedent Cause is partly abundance of Phlegm in these parts, partly too much Heat, or a depraved Effervescence in the Guts between the Bile and Melancho-

lick

lick Juice, or the Pancreatick mixt with Phlegm; the Obstruction of the Chylifick parts, and such things contributing much thereto.

The procatarick Causes, are all things that encrease Phlegm or Wind, or, when they are encreased, encrease the Heat and sharpen the Bile.

The cause of an *anasarca* is a *lymphæ*, by reason of a Clamminess and Toughness, and its dull Motion thereupon turned into a Gelly, and therefore Stopping in the lymphatick Vessels, or the Vessels being open, poured into the Pannicle.

The antecedent Cause is partly the abundance of those Humors, partly their Thickness and Clamminess (an Obstruction, Compression or Apertion of those Vessels and of the parts serving for Chylification and Sanguification ensuing) and an Imbecillity arising thereupon.

The external Causes are a cold, moist, foggy, subterraneous or unusual air. Therefore such as sail from Germany to Guiny are usually troubled with Melancholy, Grief, acute and chronical Diseases, but especially with the Dropsie;

S. 12. Prognostick.

A Dropsie that comes from a *Scirrhus* of any part, or from œdematous Tumors of the Mesentery and Omentum, or from the scarcity of volatil Salt in the Blood or of animal Spirits, is scarce curable. They are in less danger, to whose Nature and Age the Disease is conformable, according to Hipp. s. 2. aph. 34. Difficulty of Breathing betokens the Disease to be inveterate; because it argues, the Humors are incrassated by conti-

nuance in the Abdomen, so that Vapors arising from thence, they cannot freely pass through the Pores of the Diaphragm; and the danger is greater, if they be sharp, for Acrimony easily may corrode the adjacent Parts. And I have very often, yea always in a manner, found the omentum all corroded in such as I opened, after they were dead of a Dropsie. Which makes the Disease incurable; for then all the Drink immediately runs into the abdomen. A Cough in a Dropsie is bad; for it usually is a Sign, that the Acrimony comes through the Diaphragm to the Lungs. Thirst is bad; for it signifies, the *lymphæ* is so plentifully discharged into the Cavity of the abdomen, that the Blood grows dry, and has not so much Moisture in it, as to moisten the Mouth. It is a bad Sign in a Dropsie, when no Fluctuation of the Water can be felt, for then the Belly is over-stretched with water.

The Following Aphorisms of Hippocrates have respect to this Disease. s. 3. aph. 22. Many Summer Diseases fall out in Autumn; Agues quartan and erratick, Diseases of the Spleen, Dropsies, Consumption, Stoppage of urine, &c.

S. 4. aph. 11. They that have the Gripes and Tortures about the Navil, and Pain in the Loyns, which can neither be cured by Medicine nor otherwise, it turns to a dry Dropsie. In this case there is Obstruction by gross Vapors.

S. 6. aphor. 8. In a Dropsie Sores arising in the Body are not easily cured. The reason is, because the Dropsie fills the Vessels of the Parts, and when the Matter cannot ulcerate, it endeavours to get out at the Sore, so that it has no Rest, which

which is exceeding requisite for the Cure of Sores.

S. 6. aph. 14. *If one be ill of a Dropsie, and the water run out of the Veins into the Belly, the Disease is at an end.*

S. 7. aph. 5. *After Madness, a Looseness, or Dropsie, or delirium is good.*

Also, S. 7. aph. 55. *They, whose Liver being full of water bursts into the omentum, their Belly fills with water, and they die.* Hence it is plain, that Hippocrates did then suspect the omentum in this Disease. The most dangerous sort of all is a Tympany, next an *ascites*; an *anasarca* is easier to cure than any of the rest. If in a Tympany there arise an Inflammation of the Navil, or of any Muscle of the Belly, then Death is at hand, as I observed in two Patients. I have seen Sores in the Legs, and Evacuations thereby sometimes give relief, and sometimes kill. A red and high coloured Urine, a quick Pulse, Heat, and Leanness of the Body, decay of Strength signify the Disease is dangerous. There is some Hope of a Cure, if the Patient be in his prime and strong, and if he have no febrile disposition.

§. 13. Dietetick Cure.

IN a pituitous Constitution the Air must incline to heat; an autumnal, foggy and cold Air are bad.

The Meat must be of good Juice and easie of Concoction, roast is better then boiled, Broths with opening Roots boiled in them are good: All sower, salt, viscid, and milk Meats must be avoided. All Pulse, especially the flatulent it bad.

The Drink must be Beer well defecated, with Worm-wood or Juniper-Berries steeped in it, and every Draught may have ten or twenty Drops of Spirit of Mars dropt into it. A little Wine is allowable. But all Brandy and *aqua vitæ* is bad. And Drunkards have three Plagues, the Consumption, Gout, and Dropsie, Therefore Abstinence is the best Medicine.

Abstine & efficies, quod medicina nequit.

Avoid large drinking of cold Drink.

Motion must be moderate; for they are forced to abstain from all violent Motion, because of their Difficulty of Breathing; the sudden cooling of the Body, after violent Motion and Heat, is bad.

Sleep must be moderate and in the Night, not in the Day at noon. We must not cure Watching by Narcoticks; for they may prove Necroticks.

The excreta and retenta must be agreeable to Nature: for, as was said before, when irregular, they may cause a Dropsie.

The Mind must be kept cheerful: for *Helmont* has observed, that Grief alone is able to cause a Dropsie. Care, Thoughtfulness, and Passions of that Nature; and excessive *Venus* may easily produce this Disease.

§. 14. Pharmaceutick Care.

THe Galenists prescribe universal and particular Remedies. The universal are either Preparers or Evacuators. The Preparers are the opening Roots, and Cichory, Bark of Dwarf Elder, Tamarisk, *calamus aromaticus* Leaves of Agrimony, Hore-hound, Germander, Ground-pine, Rosemary, *scordium*, Worm-wood, Seed of Fenil, *daucus*, Syrup of the two and five opening Roots, of Worm-wood, Agrimony, Maiden-hair simple and compound, and of Squills, and a thousand things besides.

Their Evacuators are either Vomitory, Purgative, Sudorifick or Diuretick. If the Matter be contained in the Stomach or flow to it, they provoke vomit by thrusting their Finger in their Throat, or with hot Water, or a Decoction of Horse Radish, and Powder of *asarum*, Dill and a little *Oxymel* and Oyl Olive.

The Belly is loosened by a Clyster, made of a Decoction of Chamomil, wild Majoran, Rew, lesser Centaury and carminative Seeds, adding hot Oyls and some Purgatives. Their Purgatives are such as purge Water. Their Sweats are Internal, or External. Then they give things to strengthen the Liver. Among Externals they commend Baths natural and artificial, Cataplasms, Oyntments, and Oyls.

§. 15.

They cure a Tympany almost with the same Remedies, only they use more Carminatives. A-

mong chlrurgical Means they will not admit of Bleeding, tho *Avicenna* allows of it in every Dropsie; yet they will set a Cupping-glass to the Navil. *Aetius* advises the opening of the *scrotum* with sharp things or with a Seton. They order Cauteries, Causticks and Issues to be used with Caution. In a desperate Case they tap, but they give the Prognostick, namely if the Inwards be not decayed.

§. 16.

Paracelsus (whose Epiraph says, he cured all dropfical People) will have Moisture to be wasted by the Sulphur of all Metals. And above all he advises to expel water by Mercurial *arcana*. For which purpose he commends his *precipiolus* or *Mercurius è sua minera mortuus eductus*, above other Remedies; because Mercury only is able to expel the Water, that lies in the Pores of the Skin, to which no Spirit can come, but Mercury. In another Place he commends *diacuminum* in Lozenges, Effence of Tartar, Vitriol, *diacubebe*, and *spiritus vita* drawn from Gold. He commends this following for taking away all Dropsies;

Take of red Tartar one Pound, Swallow-wort half a POUND, *colcothar* eight Ounces, strong Wine as much as will incorporate them. Destil them by an Alembick. The Dose is half a Drachm Morning and Evening.

Paracelsus affirms, that the Sublimation of Antimony cures all Diseases of the Liver.

§. 17.

According to *Helmont* a Dropsie is regularly cured if the Kidney pass a great deal of Urine, either spontaneously or by Medicine. And a relapse follows, if the Disease be not removed from the Kidney.

§. 18.

Ullis cures an *ascites*, by Vomits, Purges, Diureticks, Diaphoreticks, and in a word, by Hydragogues. Diureticks are best in an *Ascites* and Diaphoreticks in an *Anasarca*. He commends Clysters. In a Tympany he will not admit of spirituous and volatil things. He is rather for gentle Purges and Clysters. Among topical Remedies he sets little by carminative and hot things, which consist of a volatil, but rather uses fixt Salts.

§. 19.

According to *Sylvius*, when Water offends in place it indicates a removal: the Breach of the Vessels, Consolidation, and Obstruction, opening. He corrects the Redundance, Saltness and Viscidity of the *serum* by Aromaticks. When the Vessels are broke, he uses Consolidants: But they are of most use in the beginning of a Dropsie when the *lymph*a, Chyle or Drink stagnates and gathers in any place, so as to swell, the Humor must be removed by Sweating or Tapping. He removes Obstructions of the Vessels caused by coagulated Phlegm, with inciding and attenuating things. He commends

Hydragogues, and Externals Means, as Bathing. He is also for Salivation: But then the Patient must have a care of Cold, and must look to his Throat, lest the *uvula*, Glands or part of the Tongue should be consumed.

§. 20.

The Cartesian Method of curing the Dropsie consists in gentle Incisers, in Hydragogues, and in strengthening the *viscera*.

§. 21.

In our Opinion, care must be taken to remove Obstructions, and restore the parts, and if the Disease have got Head, to get out all the potulent and serous Matter, that ouzes out of the Lymphæducts, and Vessels of the *omentum* and other parts (but first the Acidity must be corrected.) Then, to invigorate and strengthen the Mass of Blood. As to the first, we will begin with gentle Incisers; to which purpose a Decoction of the Woods will be proper, to which two Scruples of the fixt Salt of Broom, Beans or Wormwood; and *spiritus salis dulcis* may be added. Chalybeate Wine is good in this Case, and Wine wherein white Flints with metallick Veins have been quenched; for they open and bind gently afterward. But while they are taking these things, they must now and then take a Purge, such as this following;

Take of *Tartarus vitriolatus* fifteen Grains, Refine of Jalap half a Scruple, Trochisces of *Albandal* two Grains. Mix them, make a Powder. Take

Take of Refin of Jalap half a Scruple, Trochisces of *albandal* Three Grains, Magistery of Gum *gutta* two Grains, *Mercurius dulcis* half a Scruple, Oyl of Caraway three Drops. Mix them. Make eleven Pills. Or ;

Take of Essence of Buck-bean one Ounce, Extract of Spurge one Drachm. Mix them. The Dose from twenty Drops to thirty.

Or give only one ounce of Syrup of Buck-thorn at several times, till the Humor is spent ; or this following for such as are strong ;

Take of Leaves of *Senna* two Drachms ; Rhubarb one Drachm and an half, Leaves of Buck-bean half an Handful, Tamarinds half an Ounce. Boyl them in a sufficient quantity of Spring Water to three Ounces, In the Colature dissolve of Manna one Ounce, Syrup of Buck-thorn

half an Ounce, and of Juice of Roses two Drachms. Mix them. Make a Potion.

Pills of Gum Ammoniack and *Mercurius dulcis* are good. *Turpe-
thum minerale* is also good. Mr. Boyle commends *pitula lunaris*. I would recommend the following Mixture to all People.

Take of *Elixir proprietatis*, *Spiritus tartari saffratus* each half an Ounce, *mixture de tribus* three Ounces, liquid Essence of Wormwood one Ounce. Mix them, and let them stand in Digestion for a Day and a night. Then add a fourth part of Essence of citron Rind. The Dose is from one Scruple to a Drachm in Wine or Water of the Berries or Flowers of Elder two Ounces.

Sudorificks and Diaphoreticks are good.

C H A P. X.

Of the Bloody-Flux, commonly called Hepatick, and the Excess or Suppression of the Hæmorrhoids.

§. I.

THE Hepatick Flux (so called, because it is commonly thought to proceed from the Liver, which ministers matter to that Flux) is, a copious and frequent voiding by Stool Matter like the washings of Flesh, or of a reddish yellow Colour. It is a rare Disease, and I never met with it but thrice in all my Practice.

The Immoderate Flux of the Hæmorrhoids is, when abundance of Blood runs out of the hæmorrhoidal Arteries, and they are called the open Hæmorrhoids, which run at certain times, as Womens *Menses* do. The blind Hæmorrhoids or Piles are, when they swell with much Pain and no Blood. They are distinguished from the Hepatick Flux, because in the Hæmorrhoids the Excrements follow the Blood, in the Hepatick Flux on the contrary.

§. 2. *Part affected.*

SOME Authors say an Hepatick Flux comes from the biliary Ducts, and is nothing but vitious

Bile, because of a bad Constitution of the Liver, viz. its moist and cold, or hot and soft intemperature mixt with a little Blood. Some derive it from the *vena porta*, others from the *anastomosis* of the Mesenterick Arteries. I have seen the *vasa brevia* broke: therefore I question not but partly they, and partly the arterious Vessels, opening into the Guts and Mesentery, are broke.

In the Hæmorrhoids the Ancients accused the hæmorrhoidal Veins. But I think the Vessels of the *anus*, and the Arteries, rather than the Veins, proceeding from the lower Mesenterick, and the Iliacal Hypogastrick Artery to the *anus*, are the parts affected both in the Hæmorrhoids and Piles.

§. 3. *Diagnostick.*

IN the Hepatick Dysentery sheer Blood, or Blood and Pus is not voided as in a true Dysentery; but only Blood diluted with serum, like Blood and Water, or the Washing of Flesh. The Hepatick Flux is not continual, but stops for two or three Days, and then returns. In an Hepatick Flux there is no Pain or but very little in the right Hypochondrium,

480 *Of the Bloody-Flux, commonly called Hepatick,*

pochondrium, and no Shavings of the Guts come. If black Blood come once with Swooning and other bad Symptoms, the Patient is in danger. The Patient is pale, for loss of Blood. The Patient himself is best able to give an account of the Hæmorrhoids and Piles.

§. 4. Cause.

THe Galenists blame the Imbecillity of the Liver, contracted from either a hot or cold Intemperature of Liver: If from a hot, there is Thirst, and Vomiting of yellow and eruginous Bile; the Tongue is rough, the Patients are of a hot habit of Body, hairy and passionate. If cold, the Signs are contrary. In the Hæmorrhoids they hold the proximate Cause to be the Repletion, Distension and Apertion of the Veins in the *anus* with feculent, melancholick Blood. The immediate Cause of the running Hæmorrhoids is the Irritation of the expulsive Faculty: Of the blind Piles, the Debilitation of the expulsive Faculty.

§. 5.

THe Paracelsists make the Hæmorrhoids to be a Disease like the Leprosie; and in the Hepatick Flux they say, strong Salts are dissolved in the *serum*.

§. 6.

According to *Helmont* the Hæmorrhoids arise from a disagreement between the Bile and the *piloria*, and not from the Blood in the hæmorrhoidal Vessels.

§. 7.

Allis places the Cause of these Diseases in the Acrimony, Dyscrasie and too great Effervescence of the Blood, which opens the mesenterick and hæmorrhoidal Vessels.

§. 8.

Sylvius never met with the Hepatick Flux (which I admire at) yet he thinks it comes from a serous Blood, that opens the Vessels: and he says, the Blood is made serous by drinking too much watry things, Beer, &c. and Brandy, whereby the firmness and Tone of the Parts is destroyed. He says, the flux of the Hæmorrhoids, is either critical or symptomatick, and this comes from Acrimony of Humors, which opens the Hæmorrhoidal Vessels.

§. 9.

THe Cartesians in these Fluxes blame the sharp, acid, corroding, cutting and pungent Particles of the Blood, which rend and open the Fibres of the Vessels; and so let out the Blood.

§. 10.

IN our Opinion the Hepatick Flux proceeds from Acrimony of Humors, opening the Coats of the Arteries especially. And the Hæmorrhoids, from the Acrimony likewise of Blood, fretting the capillary Arteries, which as *Sylvius* observes, consist but of a single Coat. In the blind Piles the hæmorrhoidal Vessels are obstructed, either

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either by cold, being in the extreme parts of the Body; or because the Veins ascend perpendicularly, the hæmorrhoidal Arteries may easily be compressed, and so the Blood cannot be sufficiently forced upwards. And when there is Acrimony, there is great Pain.

§. 11. *Prognostick.*

THe Hepatick Flux, though indolent, is not so easie to cure, but often proves fatal, especially if there be a Fever, and it be malignant. In cold Constitutions it is apt to turn to a Dropsie or Consumption.

The Flux of the Hæmorrhoids should not be neglected, because if it continue long, it may occasion divers mischiefs, as Dropsies, Cachexies and Consumptions: Yet a little Bleeding, especially if it be periodical, is good in melancholick Cases. Wherefore a moderate Flux must not be stopt suddenly, nor must all the Veins be stopt; because experience has taught us, that it has occasioned grievous Diseases. *Hippocrates* gives us good Caution, *f. 6. aph. 12.* *When a man has a mind to stop the Hæmorrhoids, which have been of long continuance, unless one be left running, he runs the hazard of a Dropsie or Consumption.* When the Hæmorrhoids are very painful, and return often, especially if any error be committed in the Externals, they may degenerate into grievous Diseases, Inflammation, Gangrene, Induration, Ulcer or fistula, which prove incurable by reason of the Part, the continual Falling down of Excrements, and other Causes. Yet the Hæmorrhoids are good

for several Persons. For, as *Hippocrates S. 6. §. 11.* says, the Hæmorrhoids are good for the Melancholick and Nephritic. And the following Aphorisms have respect to this place. *All rejection of Blood upwards is bad, but black downwards is good.* Also *f. 6. aph. 21.* *When such as are mad have the varices and Hæmorrhoids, the Madness is over.* They preserve from the Pleurisie, Peripneumony, phagædena, furunculus, *terminthus*, Thrush, and from the Leprosie. They are good for the Varices, Gout, hard Spleen, the Suppression of the Menstrua, and, as I have observed, for Women with Child.

§. 12. *Dietetick Cure.*

THe Air must be changed according to the variety of the Causes, and for the most part it must be temperate.

Meat must be moderate and easie of Concoction. When the Hæmorrhoids run too much; and in the Hepatick Flux it must be moderately astringent; but in the blind Piles it must be something moist. The Drink must be little, a small red Wine may be allowed. A Decoction of Barly with Harts-horn is good. I have found a Decoction of Toad-flax good in the Hæmorrhoids, and Emulsions also of the cold seeds made with a Decoction of Harts-horn. Sleep is good, and Rest. The Passions of the Mind, Studies, and Venus must be avoided; for they hinder the Cure. The Excrements must be like the natural.

§. 13. *Pharmaceutick Cure.*

THe Galenical Method, consists, First in the Cure of the intemperature of the Liver and its Flaccidity. Secondly in the removing the Causes thereof. Thirdly in Mitigation of the Symptoms. They purge, and in a *Plethora* they bleed. And at last they give Astringents, and Incrassants for the Blood. But in the blind Piles they do all they can to open. If the Body be plethorick they bleed in the Foot, and apply opening Medicines to the Parts.

§. 14.

THe Paracelsists prescribe things to take off the Acrimony of the Salts and restore the natural balsam of the Blood. And in the blind Piles they use gentle Corrosives, which do not hurt the Guts. They mitigate Pain with Saturnine Medicines.

§. 15.

Helmont cures only by *arcana*, the chief of which is the Sweat of dying Persons taken in clothes and applied to the Hæmorrhoids.

§. 16.

Mullis has the following inventions. 1. To stop the Flux of the Blood by the Belly and its Turgescence. 2. To divide the Flux another way. 3. To stop the gaping Orifices of the Vessels within the *intestinum rectum*.

He uses Ligatures and Bleeds, and uses outward Applications also. He commends Narcoticks. For prevention he uses Bleeding and Purgings. In Summer time it is good to drink Iron-waters.

§. 17.

Sylvius, when the Flux of the Hæmorrhoids is critical, and gives relief, thinks it ought not to be stopt: But when it exceeds, and is symptomatick, he is for stopping it with his well known mixture, or with some other Medicine, that is good to stop Blood.

§. 18.

The Cartesians, for taking off the sharpness of Blood, commend gentle Balsamicks. To correct sharp salt Humors, they advise Opiates and external Astringents.

§. 19.

The Cure of the Hepatick Flux consists chiefly in removing the Causes and mitigating the Symptoms. First therefore some aperient Decoction with gentle Astringents may be given. Then a Purge may be given of Rheubarb, Myrobalans or Tamarind Whey. Afterwards Astringents and Driers may be taken inwardly and applied outwardly. Then Sweats may be given. Chalybeates and *Tartarus vitriolatus* and *chalybeatus* are good Medicines. Several styptick Powders are good. I highly value this following;

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and the Excess or Suppression of the Hæmorrhoids. 483

Take of *crocus Martis* calcined to redness, Vitriol of Mars calcined to whiteness each one Drachm, red Coral prepared one Drachm and an half, Camphore six Grains, Vitriolick Soot scraped off the Bottom of a brass Kettle half a Drachm, *laudanum cydoniatum Hoffmanni* five Grains. Mix them. Make a Powder. The Dose is from half a Scruple to a Scruple in a proper Vehicle.

I have done much good with Tincture of Daisie Flowers, Powder of Liver-wort, Mather, and Blood-stone mixt with *tinctura anodyna*. I highly value Opiates in this Case; but they must be given with Caution. If there be a Plethory, I bleed, apply Cuppling-glas-

ses to the Shoulders, and make Ligatures.

The Cure of the Hæmorrhoids differs but little from the Cure of any other bleedings. Therefore first of all, if there be a Plethory I bleed; or if the Patient be low in his Spirits, I cup the Shoulders or Loyns. If it proceed from thinness of Blood, we must use Incrassants and Vulneraries. If it proceed from too great thickness, Attenuants and Incisers must be used. If from Acrimony, it must be corrected by Spirituous or contrary Acids, or by Narcoticks. If from a salt or acid Humor, or from Worms, *Mercurius dulcis* may be added.

Several outward things, which may be met with in practitioners, may be applied.

CHAP. XI.

Of the Hypochondriack Disease.

§. I.

THE Hypochondriack Disease is (as far as I am able to judge) a sad Sensation depending upon a disorder in the animal Spirits. It differs but little from Womens Vapors.

§. 2. *Division.*

WE formerly divided Melancholy into *cephalick*, when only the Animal Spirits in the Head were disordered, without any fault of the *hypochondria*; and hypochondriack, when the Disease has its rise from the *hypochondria*, and when the Spirits, disturbed by consent, become gross, few and unequal.

§. 3. *Part affected.*

THE Ancients held the Part affected in this Disease to be the Spleen. But *Sylvius* says, he always found the Spleen the best part in Bodies that died of this Disease. Some of the moderns blame the Stomach, and its depraved Ferment. Others, the Mesentery. Others, a hot Liver

and a cold Stomach. Others, the Stomach and the Guts. But *Willis* knew several troubled with this Disease, who had good Stomachs. Many hold, the Cause is in the Arteries and Veins. Some few, in the *omentum*. And some in the *Pancreas*. We do not only suppose, but verily believe that the Cause of this Disease lies in the sensible, nervous and membranaceous Parts of the *Abdomen*.

§. 4. *Diagnostick.*

THE Patients after eating find a pain in their Stomachs, and complain, that all their food turns to Phlegm. If they Drink after Dinner, they find the Phlegm come into their Mouths. They have a great Appetite, and if they fast long they faint, because the Acid in the Stomach has nothing but its Fibres to work upon. The reason of their spitting is, because the Acid in the *serum* opens the salival Glands, and while the Blood is in a troubled state, the *serum* is more discharged by the Arteries upon the Glands, than into the Kidneys: Sometimes it comes from the spoiling of the Ferment in the Stomach. Some hypochondriacks,

driacks, who have a lixivious and oily *serum*, have a dry Mouth. They are troubled with Nauseousness and Vomiting, and sower Belchings. The Wind rumbles up and down their Guts, and sometimes puffs up the *Colon* on the left Side, which makes the Vulgar mistake it for the Spleen. They are short breasted, like Women in the Vapors. They sweat abundance of cold sower Sweats. They have often a Pain in their Back, because of the nervous Parts thereabout. They have great Heat in the *hypochondria*, which shows it self by flushings in the Face. The Pulse is sometimes rare and slow, at other times frequent and quick. They are troubled with Numbness, and cannot Sleep. This is in a manner a pathognomonick Sign, they make now and then a limpid Urine, clear as rock Water, in great quantity and at once. They are troubled with the *Vertigo*. They have a sharp and resolved Judgment. But, which is worst of all, though they have sick Bodies, they have sicker Minds. They are troubled with incurable Despair. They imagine to themselves nothing but black and melancholick things. They are perplexed in Mind upon the least occasion, and are averse to all Joy or Hope.

§. 5. Causes.

THE Galentists make the Cause to be Fumes and Vapors raised from the *hypochondria* to the Brain to be the Cause of this Disease. But the Moderns have sufficiently exploded this Opinion,

§. 6.

THE Paracelsists talk of, I know not what, excrementitious Tartar, lodged in the Spleen and other Places, which occasions this Disease.

§. 7.

HELMONT derives the Cause of this Disease from the erring duumvirate. And by the Duumvirate he means an acid and *alkali*, whence he derives all the Symptoms in hypochondriack Persons. *Grembs* thinks there is some Matter lodged in the *pancreas*, which affects the Stomach.

§. 8.

MULLIS blames the *succus nervosus* and the animal Spirits. But whether there be such a *succus*, as *Glisson* and he have imagined, is very much questioned.

§. 9.

SILVIUS makes the Cause to be the Effervescence of Phlegm and Bile in a different Manner. For he makes three Sorts of hypochondriack Melancholy. The first is *Acid*, when People belch sower. The second *Nidorous*, when they belch strong and ingrateful. The third *Insipid*, when it favors of nothing.

§. 10.

THE Cartesians hold that these melancholick Thoughts arise from the Grossness, Paucity and Inequality of the Spirits.

§. II.

WU hold, that an Acid lodged in the first Ways, and affecting the nervous Fibres, may easily occasion this Disease. Sometimes there is an Acid in the Stomach, sometimes in the pancreatic Juice. Now there are divers sorts of Acids, one of Vinegar, another of Citron, another of Vitriol, another of Sulphur, another of Nitre, another of Salt, another of Alum, &c. A vitriolick Acid produces an Epilepsie rather than an hypochondriack Melancholy. And in a hypochondriack Melancholy there is an aluminous Acid.

§. 12. Prognostick.

THis is no dangerous Disease; but it is very tedious. In continuance it sometimes turns to Madness; cephalick Melancholy, Dropsy, Apoplexy, Hectick Fever, or Epilepsie, and so sometimes proves incurable. After recovery by generous Medicines, they are apt to relapse. And Montanus judges very well of it, *consil.* 230. In the Cure of this Disease we can set no time, whether a Month or Year, as we may in other Diseases, but we must keep doing all the life time either for Cure or Prevention.

§. 13. Dietetick.

THe Air must be moderately hot, pure and thin, either by Art or Nature. The Meat must be easy of Concoction: The Drink

must be good Wine diluted with Spaw Waters; but avoid Drunkenness.

*Mente caret Bacchus, nox fronte,
Cupido pudore,
Et loca sola metu: quatuor ista
fuge.*

Motion and Rest must be moderate, but rather exceed in Motion. Sleep and Watching likewise must be moderate. As for the excreta and retenta, the Belly must be loose by Art or Nature, the menses, Hemorrhoids, and other natural Excretions must have their natural Course. The Passions of the Mind must be moderate, especially Melancholy. Therefore observe this rule;

*Atra melancholico regnat si in corpore bilis;
Lata ede, lata bibe, lata age, lata
vide.*

§. 14. Pharmaceutick Cure.

THe Galenists, to open Obstructions give gentle Purges, and Clysters, and a gentle Vomit, when they have thus cleared the first Ways, they bleed and open the Hemorrhoids. Then they prepare the melancholick Humor and when it is prepared, they carry it off by Vomits and Purges, and so alternately use Aperients and Purgers. And after all, they strengthen the Parts.

§. 15.

The Paracelsists dissolve the Tartar by Tartar, and Mercurial Medicines.

§. 16.

Helmont commends a Medicinal acid Water, and Salts. He brags, that he has an Anodyne, which will cure it; but he conceals it.

§. 17.

Allis advises Martial Aperients, Iron Waters, Purges and Vomits, and sometimes letting of Blood.

§. 18.

Sylvius makes the Cure to consist in four things. 1. In Amending the Diet. 2. In Altering the peccant Humors. 3. In Evacuating of them. 4. In Repairing of Decays. We have done with the Diet. He corrects a viscid Acid with Medicines, that have a lixivious Salt in them. He incides viscid Phlegm with Acids and Gumms. If a bilious Humor offend, he corrects it with Acids, oleous things, and volatil Spirits. He carries off the Humors with Phlegmagogues; and he commends Mercurial Medicines. He purges Bile with Rhubarb, Tamarinds and Aloes: And the Scrous Humor with Jalap. If it proceed from the Austerity of the Pancrea-

tick Juice, he corrects it with Spirit of Sal Ammoniac.

§. 19.

The Cartesians prepare the Body and then purge; and use several things prescribed in a cephalick Melancholy.

§. 20.

We first likewise prepare and then purge. This may serve for a Preparative;

Take of *Crocus Martis aperitivus* two Drachms, *Tartarus Chalybeatus* half an Ounce, *facula ari* two Drachms, Crabs Eyes one Drachm, *antimonium diaphoreticum* two Scruples. Mix them. Make a Powder, divide it into six equal Parts. Or;

Take of *crocus Martis aperiens cum sale* six Drachms, *pulvis cachecticus Quercetani* two Drachms. Mix them, and divide it into eight equal Parts.

Then we give simple Purgatives with good Success;

Take of Powder of Jalap one Scruple, Salt of Wormwood five Grains, *antimonium diaphoreticum* three Grains. Make a subtil Powder. Or,

Take of *massa pil. coch.* or *tartarear.* half a Drachm or two Scruples, Powder of Castor two Grains, Balsam of Peru ten drops. Make four, five or seven Pills. Repeat them three Mornings.

In strong People Vomits will be good. A Steel Course is good to correct the Dyscrasie of the Blood and Spirits, and exercise must be used. If there be violent Pain, Vomiting, or Loosness, Opiates will be proper. In the Hypochondriack Melancholy fatid hystericks are good. If there be much wind, use Carminatives inwardly and outwardly.

CHAP.

C H A P. XII.

Of the Scurvy.

§. 1.

THE Scurvy is called *sceletyrbe*, *σκαχακη*, and by Marcellus *Oscido*. It is a Disease familiar upon the Sea-Coasts and in Northern Countries. Hippocrates seems to describe it in these words. "In this Disease (says he) the Mouth stinks, the Gums part from the Teeth, the Nose bleeds, Sores break out in the Legs, some heal up and others break out, and the Skin withers and turns black."

Description.

IT may be described to be a *Dyscrasie of the Blood and other Juices*, depending upon an Acid troubling all our Countries, and introducing divers Symptoms in divers Parts. Few people, that fare well, are free from it. It is sometimes hereditary, and sometimes adventitious; sometimes primigenious, which follows no other Disease, sometimes succedaneous to another. Some is fresh and easily cured, another is inveterate and difficult.

§. 2. *Part affected.*

THE Ancients held, the Spleen was affected above all other Parts. But we take the Subject of this Disease to be the Mass of Blood, not excluding the other Humors.

§. 3. *Diagnostick.*

IT is attended with divers Symptoms, with the Head-ach, and frequent *Vertigo's* which end in an Epilepsy or Apoplexy, a Palsy in the Legs or one Side, the Face breaks out with Pimples, the Teeth are troubled with Blackness, Looseness, Falling out, Aching, the Gums are sometimes yellow, sometimes red, swell and itch, and if they be but touched bleed, and are eaten away, the Breath stinks, they spit constantly, they have Convulsions, and Contractions of the Limbs, so that they grow crooked sometimes. They have a Palsy in their tongue, some cannot sleep at all, others sleep too much. They have Shortness of Breath, Palpitation of the Heart, a Disposition to a Consumption, Spitting of Blood, Swooning,

&c.

etc. They have a bad Stomach, sometimes they are too loose, another while too costive, Gripes in the Guts, which are so racking, that sometimes the *peritonæum* is burst. There are Spots, sometimes red, sometimes livid, and sometimes black, which at last turn to Ulcers. There is a Dulness and Pain in the Limbs, a Wasting of the Flesh, and a Numbness and Tingling of it. The Urine is thin, pale, vinous or red, with Gravel sticking to the Pot. Sometimes there is a Scum upon it, which is mistaken for far.

§. 4. Cause.

THE Ancients blame a Melancholick, tenacious, gross, crude Humor, or a pituitous one, which mixt with the Mass of Blood causes a Cachexy. And this obstructs the Spleen or Liver, and causes all the forementioned Symptoms.

§. 5.

THE Hermeticks derive it from an impure Tartar, diluted with the Serum.

§. 6.

HELMANT blames the Spleen and Stomach. For the Spleen contains an acid Ferment, and the Stomach, because of abundance of fixt Salt performs not its Office aright.

§. 7.

ALL places the scorbutick *miasma* either in the Mass of Blood, or in the nervous Juice, or in both.

§. 8.

SYLBIUS does not any where professedly treat of the Scurvy. But he ascribes the Cause of it to an over acid pancreatick Juice, vitiously fermenting with the Bile.

§. 9.

THE Cartesians say, the Cause of this Disease does chiefly consist in the Blood, being impregnated with much fixt Salt, or a fixt Acid.

§. 10.

WE hold, that the Cause is a fixt Salt, but sharp likewise, which resides in the Mass of Blood, wherein there are many Acid or Muriatick Particles; Acid, when the Blood is thick and black; Muriatick, when the Blood has lost its Consistency, and is over thin. He that pleases, may find, that all the Symptoms agree with this Cause.

§. 11. Prognostick.

THE Scurvy is a chronical Disease. In the beginning, if it be known, it is easie to cure; but when it has communicated its Malignity to the *Viscera*, it is scarce curable; yea, it sometimes degenerates into a Dropsie, a Suffocative Catarrh, a mortal Dysentery, or Consumption, seldom into an Apoplexy or Palsy. In such as have it hereditarily, it is scarce ever so perfectly cured, but there will still be some remains of it. It is bad for old Men. Women

men are most subject to it, because of their sedentary Life, they have it sometimes for fifteen or twenty years. Men have it not for above seven or eight. Shortness of Breath, livid or black Sores, and Pains about the Navel are all bad Signs. When the scorbutick viscera grow scirrhus and swell, or the Lungs ulcerate, there is small Hope.

§. 12. Dietetick Cure.

THE Air must be pure Serene, and inclining to a heat; a marine, marshy, cold or foggy Air is bad. The Meat and Drink must be easie of Concoction. Avoid lowre and salt things, and sweet things. The Wine must be small; the Beer, if any, well wrought, and joyned with Antiscorbuticks. Brandy is bad. Motion and Rest must be moderate, it is bad to stir after Meal, while the Body abounds with bad Humors. And too much Idleness occasions it. Sleep and watching must be moderate. The excreta and retenta must observe their natural measures. As for the Passions of the Mind, the Patient must keep himself cheerful: for scorbutick People are generally sad.

§. 13.

THE Galenists use all Medicines, that are good for Melancholy. Therefore they give Preparers and Evacuaters, and at last Specificks.

§. 14.

THE Hermeticks give Medicines to dissolve the obstructing Tars, both Spirits and Salts.

§. 15.

Helmont gives all volatil things.

§. 16.

Willis makes the Cure to consist in the following Intentions. In rectifying Chylification in the first Ways, in restoring the lost or depraved Ferments, and in opening Obstructions; to which end he commends Catharticks, Digestives, and Aperients, Diaphoreticks and Diureticks. And he varies his Medicines according to the nature of the Scurvy, whether it be hot or cold.

§. 17.

Sylvius says but little of this Disease; however he commends volatil Salts for it.

§. 18.

THE Cartesians Cure consists in volatilizing the fixt Salt in the Blood, and in removing Obstructions.

§. 19.

IT is our Method first to correct Crudities, in the first ways, which is best done by Absorbents mixt with Specificks;

Take of *crocus Martis aperitivus* one Scruple, Ivory prepared without Fire, Crabs-eyes prepared each half a Drachm, *antimonium diaphoreticum* one Scruple. Mix them. Make a Powder, which may be taken for a Week and longer.

Some-

Sometimes I bleed, cup or apply Leeches first. For Purges, Hydragogues and Phlegmagogues are best. If one be strong, Vomits are proper; but they must be gentle. Clysters may be given, and Sweats. But always Specificks must be intermixt. In a hot Scurvy these Vegetables are good, Leaves of Fumitory, Endive, Dandelion, Spleenwort, Scabious, small Sengreen, Wood-forrel, Brook-lime, Germander, Borrage, Roots of *Scorzonera*, Polypody, Cichory, Fenil, Parsly, China, Flowers of Broom, Elder, Marigold; of Fruits, Currans, Damasck Prunes, Walnuts, Citrons, Oranges, Limons, Pine Nuts; Seeds of Citron, Endive, &c. In a cold one all Medicines are proper, which abound with a sharp

volatil Salt, the chief are Scurvy-Grass, Pepper-wort, Horse-Radish, Arsemart, lesser Celandine, Rew, Rocket, Wormwood, Buck-bean (which is an excellent Medicine) Mustard, Elecampane, *Acorus*, Angelica, Zedoary, Juniper-berries, gum Ammoniack, *Lacca*, Martial Medicines, &c.

Scorbutick Medicines keep not their Virtue long; nor must the Spirits be prepared by Fermentation, because the volatil Salt is lost. Dried Herbs are seldom used. Divers Receipts may be made out of the foresaid Medicines. And as for the Symptoms they may be referred to their proper Chapters, where you may find their Cure. Only you must add Antiscorbuticks.

CHAP. XIII.

Of the Diseases of the Kidneys and Bladder.

§. I.

THE principal Diseases of the Kidneys and Bladder are the Stone in both, Inflammation and Ulcers in both, Bloody Urine, Diabetes, Pissing of Blood, Dysury and Ischury, or Suppression of Urine, and Strangury, which we shall discourse of in order.

Stone in the Kidneys.

THE Stone in the Kidneys, or nephritick Pain, is a Solution of Continuity arising from Exasperation of the Kidneys by Gravel or a Stone sticking in them, and a painful Crispation of the Fibres of the Kidneys and Ureters, or from a sharp lymphæ vellicating the Parts.

Distinguishing Signs.

THIS Disease is like the Colick, but is distinguished from it; because the Stone continues fixt in one place; in a Colick the Urine at first is turbid; in the Stone it is clear, in progress of time it gives a turbid Sediment,

and at length Stones and Gravel come away.

Ischury and Dysury.

Ischury and Dysury differ only in degrees, and they are either a Suppression or Imminution of making Water, either because serum is wanting, or the Ferment of the Kidneys is spoyled, or it comes from the Stone, &c.

Strangury.

THE Strangury is a continual desire to make Water, with excessive Pain, and Heat, produced either from the foresaid Causes, or usually from a vitious Acid.

Diabetes.

A Diabetes or hydrops ad matulam is a frequent and plentiful making of Water, with the Consumption of the whole Body, arising from a Salt, which precipitates the Blood into the Serum.

Stone.

Stone.

STones, namely tartareous Particles, grow in all Parts; but most frequently in the Cavity of the Kidneys and Bladder, and they differ in magnitude, ruggedness, shape, colour and number. It (as all tartareous Diseases are) is hereditary.

§. 2. Part affected.

THE parts affected in all these Diseases are the Organs of Urine, namely, the Kidneys and Bladder, with the parts intermediate and common to them both, the Ureters and *urethra*, yea all the nervous and membranous Parts, that encompass these.

§. 3. Signs of the Stone in the Kidneys.

THE Stone in the Kidneys is discovered by a fixt Pain in the Loins, bloody Urine, thin and watry about the beginning of a nephritic Fit, voiding of small Stones, or Gravel, an acute pain along the Duct of the Ureters, Nauseousness and Vomiting, a Numbness in the Thigh. When the stone gets into the Urinary Passages, or is displaced, so as with its pointed corners to prick a Membrane, the pain encreases. Sometimes viscous Matter is voided, as well as Gravel.

Signs of the Stone in the Bladder.

WHEN there is a Stone in the Bladder, the pain lies toward the *Pubes*, and there is an Itching in the Passage of the Yard. Stoppage of Urine is common to both; it is very painful, sometimes the Patient feels the Stone remove from one side of the Bladder to the other, that is, when it is not wrapt in Phlegm; the Urine is often troubled and white as Milk. The Pain argues the bigness of the Stone in the Bladder, which grows worse after exercise of the Body; there is a Pain in making Water, especially before it is made, about the *Glans*. When the Patient makes Water, he also goes to stool. A white, glutinous *mucus* is voided with the Urine, sometimes the Urine is bloody.

Signs of Inflammation of the Kidneys and Bladder.

IN an Inflammation of the Kidneys sometimes a dull, burning or throbbing Pain is felt in the Loins, attended with a continual Fever, Head-ach, unquenchable Thirst, and Restlessness. The Urine is painful and hot; it is difficult to lie either on ones back or on one side; the Patient cannot turn himself nor raise himself up without Pain. In an Inflammation of the Bladder the like Pain is felt above the *Pubes*, there is a Fever and the foresaid Symptoms. The Urine is high coloured, little is

is made, and that with Pain and Heat, the Belly is bound, there is a *tensismus* and redness in the Parts thereabout.

Signs of an Ulcer in the Kidneys and Bladder.

AN Ulcer in the Kidneys and Bladder may be known, when Causes have proceeded, which might occasion an Inflammation or corrode the Kidneys or Bladder, when there are manifest Signs of the Stone. It may be known by the voiding of white, thick, glutinous and stinking *pus*, which is sometimes Bloody. But all the difficulty is, to know, whence the *pus* proceeds, whether from the Kidneys, Bladder, or from some where else: For in an *Empyema* and such Diseases oftentimes *pus* is voided with Urine. But if you take good notice, you may know it, by the site of the Pain, by the Quantity of the *pus*, which comes in greater Plenty from the Kidneys, than from any Place else; by the Quality of it, its Colour, which is whiter, and its Smell, which is pleasanter, than if it came from the Bladder; from its smoother Consistence, but less Glutinousness, than if it came from the Bladder. In an Ulcer of the Bladder there is always in a manner a Dysury or Strangury, and very seldom in an Ulcer of the Kidneys.

Signs of an Ischury and Dysury.

THe Ischury and Dysury are easily known, but not whether they proceed from the Kidneys or Bladder. You may know it by the Swelling or not Swelling of the Bladder in the stoppage of Urine.

The Strangury, Diabetes and Incontinence of Urine are easily discernible.

§. 4. Cause of the Stone.

THe Galenists thought, the Cause of the Stone was, a thick, rough and phlegmatick Humor, baked by Heat into a Stone, like bricks in a Kiln.

Cause of Inflammation.

IN an Inflammation of the Kidneys and Bladder they blame some hurt of the Vessels through Heat arising from Stagnation, Extravasation, and Corruption of the Blood therein.

Cause of an Ulcer.

AFTER an Inflammation of the foresaid parts an Ulcer is often produced. For every Ulcer, according to them, is a Solution of Unity caused by Erosion, and the parts may be corroded by any sharp Humor. So a Stone may tear the parts. A Blow, Fall, Compression, strong and sharp Diureticks, such as *Cantharides*, may breed an Ulcer.

Cause of Bloody Urine.

Blood is usually voided by the Kidneys spontaneously and suddenly. Wherefore *Hippocrates* says, They that piss Blood spontaneously and on a sudden, it is a Sign, it comes from a Vein broken in the Kidneys; that which comes from the Bladder, comes slower and in less Quantity. The Cause is Breach of the Blood-Vessels in the Kidneys or Bladder, by Acrimony of Humors or roughness of the Stone.

Cause of an Ischury.

Impotency to make Water comes either through the Palsy or Obstruction of the Nerve, which communicates sense to the Part; or from Diversion of the Spirits and their Disorder, so that the Bladder is insensible of the Provocation by Urine, and so endeavours not to void any, as it falls out in soporous Diseases, the Phrensie and *Deliria*. They blame also the Coldness of the Bladder, which debilitates the expulsive Faculty, and dulls its Sense. Strainness also of the Orifice or Neck of the Bladder, from whatsoever Cause, may hinder voiding of Urine.

This Impotency to make Water may also come from the Kidneys and Ureters, when their attractive Virtue is abolished either by a cold Intemperature, or Obstruction of the said Parts.

Cause of a Diabetes.

IN a *Diabetes Galen*, and most of his followers blame a hot Intemperature of the Kidneys, which makes them draw much serum from the Veins. *Attius*, besides Heat, blames an afflux of sharp Humors. Some blame Bilious and Salt Humors, which continually stimulate the Kidneys to Expulsion. *Arctaus* and others, blame a cold Intemperature of the Kidneys, which weakens the retentive Faculty. Others blame the depraved Attraction of the Kidneys.

Cause of Incontinence of Urine.

They say, the chief Cause of Incontinence is in the *Sphincter* Muscle which has lost its Retention and is weakened either by a cold and moist Intemperature, by cold, a cold Bathe, or sitting upon a cold Stone.

§. 5.

Paracelsus holds, That the Stone is bred of Tartar in the Blood and Urine.

He says, the Dysury and Strangury proceeds from the Tartar of the Stomach, and therefore must be cured in the Stomach. Heat of Urine proceeds from Salt and Sulphur.

Incontinence of Urine proceeds from the Stupefaction of the Parts by a narcotick Sulphur.

He says a *Diabetes* is a dry salt dissolved, and cleft, and angulous through the Mixture of an acute Salt, placed in the middle Centre of

of this principal Part, that is, a chro-
nical permanent and fixt Salt.

§. 6.

Helmont says, the Calculous Matter is *Dueltch*, arising from more Volatils, or a tartareous fa-
culent and slimy Matter, whereby the *Dueltch* is coagulated. He holds, That the Coagulator inhabits in the Urine. He likewise holds That these aforesaid ferments in the Blad-
der, either breed there, or are sent thither, which breeds Mucilage of the Blood, whence Ischury and Dy-
sury proceed.

Inincontinence of Urine, or when the Muscle of the Bladder has the Palsy, he holds, that an Acid causes the Strangury or Heat of Urine, in old Men especially. And a Dysury often proceeds from the Stone, an Abscess or Ulcer of the Bladder, &c.

§. 7.

Mills holds, that some-
times the *serum* sticks so close to the Blood, that it cannot part from it, as in Fevers, which have had a bad *crisis*, Dropsie and Cacochymy, sometimes the *serum* is diverted another Way, as in Catarrhs, arthritick and scorbutick Defluxions, Dropsies, &c. On the contrary in a *diabetes* and pissing of Blood, he holds, That the *se-
rum* parts from the Blood, before it has done its office, and it con-
sists in the dissolution and over lax frame of Blood; as the Suppressi-
on does in a Concretion and too Compactness of Blood. The Lax-
ness proceeds from an assalt, and the sweet Taste of the Urine is, when some sulphureous Particles

from the Colliquation of the solid Parts are mixt with the Salts.

And he holds that the Stone proceeds from a saline fixt Matter, carried from the Blood in the Kidneys with an acid Humor, which fermenting causes Pain, and when fermented, coagulates into a Stone.

§. 8.

Sylvius ascribes a red, calcu-
lous Urine to Acrimony and Acidity; for he observes, that though the Urine be made clear, yet Gravel will settle, and stick to the Bottom and Sides of the Pot, generally red or yellow, and sel-
dom white. He thinks, that when this Gravel grows bigger in the Kidneys or Bladder, it encrea-
ses gradually, till it grows to a great Stone, unless it be voided before.

He does not ascribe the Concre-
tion of these Stones to heat, but rather thinks that Heat hinders it: because Gravel never settles in the Urine, till the Urine grows cold.

He thinks that Bloody Urine pro-
ceeds from the Breach of some Vessel, in the Kidneys, Ureters, Bladder or *urethra*.

He derives Contenance of Urine from a Palsy or Wound of the *sphincter* Muscle.

He makes the Cause of an Ischu-
ry to be, the Straitning of the Ori-
fice of the Bladder, or an Obstructi-
on, Compression or Coalition of the Passage, by the Stone or a Caruncle, by a Tumor or Inflam-
mation or *Scurbis* or by a Wound without a ragged Stone or corro-
ding Humors. Or the Bladder cannot contract, because of the Palsy, or of its Fullness and Disten-

son, by keeping ones Water too long.

The Strangury proceeds from a perpetual Irritation by sharp Humors, or the Stone. An Ulcer proceeds from a Wound, or from Acrimony of Humors.

He derives a *Diabetes* from a sharp Volatil Salt, either received from without or inbred.

§. 9.

THe Cartesians in the Stone do blame either the Abundance or thickness of the Blood, or sharpness of Humors, or acute and angulous Particles of Salts.

In an Ischury and Dysury the *Serum* is diminished, or the Ferment of the Kidneys is spoyled. Or a Stone, or some viscid Humor, or a *plethora* stops up the Passages.

They derive the Strangury from saline aculeated Particles in the Urine or *serum*; Pissing of Blood from Solution of Continuity by sharp Particles; and the *Diabetes*, from a Salt precipitating the Blood into a *Serum*.

§. 10.

Our opinion is, That an acid volatil Spirit is the Cause of Coagulation in the Stone. Thus, some Waters purifie whatever is put into them. I keep an acid volatil Spirit by me, which in a short time turns into Stone whatever is put into it. Thus an acid Volatil congeles Sal Ammoniac. If we may believe *Tachenius*, draw the acid volatil Spirit from the Stone, and pour it upon the Matter again, it will reassume its pristine Hardness. But, may some say, if an acid volatil Spirit

breed the Stone, why does it destroy the Stone? It is plain, because the Stone requires a like Dissolvent: for the Dissolvent must be of the same Nature with the dissolved, as in Gums, Resins, and such things, and in the mineral Kingdom we see things are always dissolved in their like.

An Ischury arises from Obstruction of the urinary Passage by a Stone or mucilaginous Matter, or from the spasmodick contraction of the Sphincter by an austere Acid or great Influx of animal Spirits. Or when the Urine is not separated from the Blood, or, if it be separated, is not carried to the Bladder.

The Strangury hath divers both internal and external Causes, as Acrimony of Urine, Excoriation of the Bladder or the *urethra*, by various Causes, but especially by sharp and corrupt Seed in a virulent *gonorrhœa*.

Inflammation of the Kidneys and Bladder comes generally either from a Plethory or from Acrimony and Thinness of Blood, or from Gravel or the Stone.

An Ulcer in these parts proceeds from an Inflammation, from a sharp Blood or Humors, from a Blow, or from strong Diureticks.

Heat and Sharpness of Urine come from an acid and corrosive Salt, vellicating the urinary Passages.

The Cause of Pissing of Blood is the Breach of some Vessel in the Kidneys or Bladder, by a Stone or Humors.

Inconvenience of Urine proceeds from a Relaxation of the Muscle and Nerves tending to it, from Obstruction, Compression, Wound, Ulcer or Inflammation.

The

The Cause of a *Diabetes* is a peculiar Acid precipitating the Blood. I do also blame the Passages from the bottom of the Stomach through the *Omentum*; for by these patent Passages all that is potent passes immediately. The largeness of the Pores of the Kidneys and their over acid Ferment may contribute much to it. The *Crisis* of a Disease may occasion it. The external Causes are too much Drink, especially acid, Diuretick Food and Physick, Suppression of customary Evacuations, &c.

§. II. Prognostick.

THE Stone in the Kidneys is a grievous Disease, and if it is hereditary, it is incurable; and in old men, according to *Hippocrates*, *aph. 6. s. 6.* The greater and rougher the Stone, the more painful it proves. If the pain cause an Inflammation and Fever, or if the stone wound the substance of the Kidneys, it is dangerous; if the Fit will yield to no Remedies, if the external parts be cold, if the Face be pale and in cold Sweats, with Faintness and a low Pulse, Death is at hand. I have observed it to be a good Sign, when the Urine is at first clear, afterwards grows thick, and leaves Gravel sticking to the Pot. When the stone sticks in the Ureters, the pain is most exquisite, and the Patient generally dies.

Boys are most subject to the Stone in the Bladder, and old Men to the Stone in the Kidneys. If the Stone in the Bladder be big, there is no other way for Cure, but cutting by a skilful Lithotomist.

Fat, gross and sedentary People are most subject to the Stone. Only Women, because of the Benefit of their Passages, and of their *Menses*, are less liable to it than Men.

If an *Ischury* proceed either from the Secrecion of Urine being hurt, or from a pottick Austerity, or from a great Stone stopping the Ureters, or from a Palsy of the Nerves, or from a Hurt in the spine, *os sacrum* or Loins, or from a Disease in the *sphincter* Muscle, it is bad. It is also a very bad Sign, if a *tenesmus*, or Hiccough come upon this Disease, or if a fetid urinous Smell come out at the Mouth or Nose. On the contrary it is easier to cure, if it come from external Causes, or from some slighter internal.

If a Strangury come from purulent Kidneys, it proves mortal; if from drinking too much or new Drink, there is no great danger: for *Hippocrates* says *s. 7. aph. 48.* *Drinking of strong Wine and Letting of Blood cures the Dropping and Difficulty of Urine.*

The event of an Inflammation is dubious and dangerous. When it turns to an Abscess a slow Fever follows and an incurable Ulcer, which attends a Man to his grave. It is a good Sign, when the Hæmorrhoids open of themselves or when one bleeds at the Nose, or when Women have their *Menses*: also if in the encrease of the Disease a white and glutinous Sediment appear in the Urine, with an abatement of other Symptoms.

Ulcers in the Kidneys and Bladder are difficultly cured in old Men.

Pissing of Blood is dangerous, because it may breed a Dropsie or

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Consumption, or if it do not, an Ulcer; and if it be not impossible, yet it is difficult to be cured.

Incontinence of Urine and the *Diabetes* are difficult to cure: for if an incontinence be inveterate and happen to old People, or come from a Palsy, or any other grievous Disease, it is incurable. But when it happens to Children or people in full Strength, or from an external Cause, or from deep Sleep; by change of Diet and in process of time it may be cured.

Young People are most subject to a *Diabetes*, and is the easiest to cure in them. But old People may have it; and in them it is incurable, or if it be inveterate. Now and then it is cured only by Alteration of Diet.

§. 12. *Dietetick Cure.*

IN the Stone, and in all Diseases of the Kidneys and Bladder the Air must be clear and temperate. The Meat must be easie of Digestion, and lubricitating. The Drink must be a small white Wine, especially a *Moselle*.

In Pissing of Blood, Incontinence of Urine and a *Diabetes* the Diet must be more astringent. The Air must be dry and serene. The Food must be incrassating and astringent, but of good Juice. Drink must be sparing; a little red astringent Wine may be allowed, and some Martial Astringent may be put in it. Abstain from Drink, as much as may be, for temperance is the best Cure. Rest must be enjoined. Sleep must be moderate, one must not lie on his Back. The excreta and retenta must be according to Nature. The Passions of

the Mind must be moderate. Intemperance in *Venus* is always bad.

§. 13. *Pharmaceutick Cure.*

THE Galenists are for inciding and evacuating the gross and pituitous Humor, that turns to the Stone. In the Fit they give a Clyster, and out of it they purge. In the Fit they commend Narcotics, and Baths. They give fat Brothes, oylly things and Emulsions. When the Pain is abated they give Lithentripricks.

In an Inflammation of the Kidneys or Bladder they use the same Method as in other internal Inflammations.

In an Ulcer of these parts they give Vulneraries.

In bloody Urine they check the Efflux of Blood, they heal the Breach of the Vessels, and they strengthen the Parts.

They cure an Ischury and Strangury, by altering the Intemperature, removing the Stone, and thick phlegm, and by altering the Diet, that it may not breed again. To this end they use Lithentripricks, and they strengthen the Parts.

In a *Diabetes* they prepare and then purge, they make Revulsion of the Humors, and then amend the intemperature of the Kidneys and Liver, and strengthen them.

They cure Incontinence of Urine by Antiparalyticks, giving now and then Phlegmagogues.

§. 14.

IN the Cure of the Stone the Paracelsists use many Specificks. Paracelsus cures the Dysury and Strangury

Strangury with Spirit of Salt and Spirit of Juniper.

In an Ischury he commends Spirit and Tincture of Nitre, Antimony and Salt.

He cures a *Diabetes* by Anodynes alone.

§ 15.

Helmont thinks a Liquor may be had, which will without Offence dissolve Gravel or the Stone in the Stomach. But to talk of breaking a confirmed Stone in the Bladder is but the Bragging of Empiricks, and nothing else. For a Physician can only force the Stone by Diureticks, and loosen the Ways with Moisteners.

In an Ischury to stimulate the *Archeus*, he gives Diureticks.

He cures an Ulcer by Vulneraries.

In the Strangury he saturates the predominant Acidity with *Alkalies*.

In a *Diabetes* he gives Anodynes.

§. 16.

Wallis has several Diureticks, whose *Basis* is a volatil Salt; and several, whose *Basis* is an alkaliate Salt.

In violent Ischuries he uses testaceous Powders.

He has some Diureticks whose *Basis* is a fixt Salt, and some whose *Basis* is an Acid.

In the Cure of a *Diabetes* his Intentions are, 1. To check the Fusion of the Blood by incrassating Medicines. 2. To recover the Ancient *crasis* of the Blood. 3. To incrassate, cool and qualifie

by Hypnoticks. He commends a Milk Diet, Emulsions, and Medicines endued with a fixt Salt.

§ 17.

Sylvius says, the Stone must either be expelled or dissolved. He expels by Diureticks; And he says 10 or 12 Drops of Spirit of Nitre in a Decoction of Grass dissolve the Stone in the Bladder.

If gross Phlegm cause an Ischury by stopping the *urethra*, then he uses a *Catheter* or a Syringe.

In a Dysury, when the Orifice is exulcerated or corroded, he magnifies several Sorts of Balsams of Sulphur.

In the Strangury he commends testaceous Powders and volatil Salts.

In Ulcers of those parts he commends Balsam of Sulphur.

In Pissing of Blood he commends Vulneraries.

He says, the cure of a *Diabetes* consists in contempering the sharp volatil Salt by oleous things and Emulsions, and by Milk.

§ 18.

THE Cartesians in the Stone let Blood, give Diureticks and Clysters. In the Strangury they give Precipitants, things to imbibe an Acid, Anodynes, &c. In a *Diabetes* they commend Astringents and Abiorbents mixt with Opiates, to imbibe the vitious Salt, which precipitates the Blood into *serum*.

§ 19.

IN the Stone in the Kidneys we give a milk Clyster, which does as well as one of many Herbs or one of Milk, Turpentine and the Yolk of an Egg. Salt must not be put in them, because it is good to keep them long. Fomentations, Oynments and Baths may be used. If any thing can be expelled, we may give Diureticks.

Wedelius uses this following ;

Take of *Sperma ceti*, Crabs-eyes each half a Drachm, Cinnabar of Antimony one Scruple, volatile Salt of Amber, four Grains, *laudanum opiatum*, half a Grain, Trochiscs of *albekengi* with *opium* half a Scruple. Mix them. Make a Powder for four Doses.

In the fit when the Pain is violent, an Emulsion, or some Opiate will be good.

Out of the Fit we must endeavour to extirpate the Coagulator. And we must always have regard to the Stomach. Therefore Stomachick Medicines will be good. Some say, there is nothing better, either for the Cure or Prevention of the Stone, than this Antinephritic following ;

Take of Seed of Anise, Parsly, Dill, Leaves of Saxifrage each half an Ounce, Pike's Jaw, Crabs Eyes, Seeds of Hips each one Ounce. Mix them. Make a Powder. The Dose one Drachm three days before the New of the Moon.

In the Stone of the Bladder the same Cure must be used, a Clyster may be given, and Lichon-tripticks inwardly. When the Stone is large, there is no way but Cutting.

In an Inflammation cooling things are good inwardly and outwardly.

Ulcers proceeding from *cantharides* are best cured by Milk with mucilaginous Vulneraries boyled therein.

And in all Ulcers from sharp Humors Vulneraries are good.

In an Ischury search must be made with a wax Candle. And in this case the same Method is proper as in the Stone. Diureticks may be given, and warm things must be applied to the *Pubes*. These are excellent Pills ;

Take of *Venice* Turpentine dried a little at the Fire two Drachms, Juice of Liquorish, Powder of the same each one Scruple. Mix them. Make Pills, as big as Pease, roll them in Powder of *miliapedes*.

In the Strangury Acrimony must be corrected ; and all things are good, that are good in the Stone. A Purge of Cassia, Jalap and Sugar may be given in a *Bolus*.

In Pissing of Blood, 1. Let blood. 2. Give tempering, incrassating, anodyne, consolidating, and astringent Medicines. Agrimony is the best of Vegetables ; of which and Flowers of St. John's wort a Traumatick Essence may be made. *Laudanum opiatum* is excellent.

If Incontinence of Urine arise from the Palsy of the Nerves, nervine Oynments and Astringents

must

must be used. If from the Laxity of the *Sphincter*, and over Extension of the Fibres, heating, drying, astringent and antiparalitick Medicines will be proper. The Specifics are Mastich Wood, Hen's Gizzards, Ashes of a Hedgehog, the Womb of a Sow boyled or roasted and eaten. A Goat's Bladder dried in an Oven, a Drachm of it given in Powder, a Fish found in the Belly of a Pike, Powder of a burnt Toad, *Medulla lapidis*, *Lignum aloes*.

In a *diabetes* all gentle astringent Medicines are proper. If we purge, it must be gently. Opates are good. Diaphoreticks, which are also Diureticks, must be avoided. Cooling Clysters are good. Mucilaginous things, as Gums are proper. Milk, or Whey, wherein Flints or Steel have been quenched, are good. Externally cooling things may be applied to the Loins.

CHAP. XIV.

Of the fixt and running Gout.

§. I.

THE Gout is called *arthritis*, *passio arthritica*, by Pliny *morbus articularis*, by Celsus *dolor articulo-rum*, by Paracelsus *morbus tartareus*, some have jocularly called it, and aptly enough *dominus morborum* and *morbus dominorum*, it is barbarously called *Gutta*, from whence perhaps came our Gout, because it is caused *ex defluxu guttatim facto*. It may be defined to be, a Pain of a Joynt, and of the parts about the joynt, arising from some extravasated acid Humor, which irritates the Fibres encompassing the Joynt.

Difference.

THE Gout is a general name, whereof there are four sorts. 1. *Chiragra*, the Gout in the Hands. 2. *Gonagra*, in the Knees. 3. *Ischias*, the Sciatica or Gout in the Hips. 4. *Podagra*, the Gout in the Feet. But there is no part free from it. We may add a fifth sort, called *arthritis vaga* or the running Gout, when the Pain is not fixt in any one place, but runs from one

part to another. A scorbutick Pain removes, but an arthritick pricks, corrodes and stretches the Limbs. The Gout and Stone are so near allied, that they seem to be of the same extraction. He that is troubled with the one is generally troubled with the other; and the one turns into the other.

Some Gouts, as most tartareous Diseases are, is hereditary from Parent to Child. Some are adventitious which come from various Causes in the Body.

§. 2. *Part affected.*

SOME take the Brain for the Original of this Disease, others the Liver, Pancreas and Glands. Some as Helmont and Sydenham in his late tract, accuse the Stomach. In our Opinion all the sensible, nervous and membranous parts are the Subject of it, but especially the *periosteum*. Willis concludes from the principal Symptom, viz. Pain, that it is a Disease of the Head and nervous kind. So Cornelius Piso, and Fernellius place the Cause in the Head.

§. 3. *Diagnostick.*

When a Gout is curing, there is a Numbness in the Part, or a more exquisite Sensibleness than usual, which makes it sensible of the least Touch, a Heat and Redness sometimes with a Swelling, sometimes without; a Fever sometimes preceeds. When it is come, the Patient feels an inflammatory Pain and a Swelling in the Joynt, and he feels as if his Body were stung with Ants. If it come in the Hands, all things feel thicker than they are. It usually takes the Great Toe of the left Foot first, and thence it creeps up to the Knees and other Parts. There is impotency of Motion. They have a Fever either before or in the Gout, without a cold Fit, with the Head-ach, Thirst, Faintness, and Loss of Appetite. In the Urine of Gouty Persons usually red Gravel sticks to the Sides of the Pot. In the Disease, when inveterate Knots appear. In a scorbutick Gout, spots like Flea-bites appear, as if they were stung with Nettles. In the *sciatica* there is a Pain on that Side, and they cannot stir that Leg. The wandring or running Gout is like an *ignis fatuus* sometimes here, sometimes there, and when it abates a little, it returns unexpectedly.

§. 4. *Cause.*

THE Galenists say, the proper Cause is an Humor and weakness of the Part; they consider four things, the Humor Influent, the part Mandant, the part Recipient and the Way the Fluxion comes. They say the

part Recipient is the Joynts or Coarticulation of the Bones, in which they presuppose an infirmity, otherwise they would not receive the Humors. Some say, the part Mandant is one, some another, and some say the whole Body is such. They say the Matter is only the Excrement of the Brain. The Way by which the Humors flows they think, is not only between the Flesh and Skin (though this is most frequent,) but by the Continuity of Membranes, Muscles, Nerves, Veins, or Arteries. The antecedent Causes are all such things as may breed such Humors.

§ 5.

Paracelsus makes the Gout to be a tartareous Disease, or Exaltation of all mineral Salt, or of an acid Liquor in the Synovia. And the Pain in the Gout differs according to the Difference of the various Salts, whence it proceeds.

§. 6.

Elmont accuses the Stomach principally, and proves, that the Gout proceeds from an Acid infecting the *Archeus*. When this Acidity is got into the Synovia, it curdles like Cheese and grows opaque. Now the Synovia is nothing but a pellucid Mucilage, such as runs out of a Calf's Feet when they are cut off. And this Synovia hardened is the chalky Matter so familiar to gouty People.

§. 7.

All this holds, that the Cause of the Gout is never Blood, because arthritic Swellings

Swellings never suppurate, but it is a mutual Effervescence in all the Humors, proceeding chiefly from the Acidity of the nervous juice, and saline lixivial Feculences, which are so corrosive, that lay but a Worm on the place pained, and it will dy.

§. 8.

Salvius derives it from the Acidity of the pancreatick Juice, and some fault in the Bile and salival Humor meeting in the Guts.

§. 9.

The Cartesians ascribe it to the angular Figures of divers Salts in the Blood, which being discharged upon a Joynt, cannot pass the Pores thereabout, and so vellicate the Fibres and cause Pain.

§. 10.

IN this Disease we reckon the fault lies in the ill Digestion of Food in the Stomach, *Viscera* and Glands designed for Digestion, by acid and lixivial Particles. Now the Matter of these acid and lixivial particles is a volaril serum in the Arteries, an ill digested Chyle, or a stagnating *lymphæ*, afterwards extravasated, and in time forced into the habit of the Body, which causes the Swelling. The tormenting Acid sometimes coagulates the Blood, and fixes the Humors into a Chalk in the Joynts.

Among the procatartick Causes the chief is Wine, the Tartar whereof sticks in drunkards fingers. *Venus*, Studies, and Grief may occasion the Gout. For few Fools are troubled with it.

§. 11. Prognostick.

The event of this Disease is uncertain, both in regard of the Fit and the whole course of the Disease: For a Fit sometimes lasts long, at another time it goes off quickly. When the Gout is knotty, it is hard to cure.

Tollere nodosam nescit medicina podagram.

An hereditary Gout is reckoned incurable. *Hippocrates* says, That before the use of *Venus* men have not the Gout, nor Women before their *menses* leave them. Fools are free from it. It is good to have the Hemorrhoids. The Gout is most pertinacious in a scorbutick or cachectick Body, or in one weakened by a precedent Disease. In old men it sometimes occasions the Palsy. If the Gout settle in the Nape of the Neck, at the beginning of the spinal Marrow, it kills the Patient. Sometimes there ensue terrible Symptoms, Heart-burn, Shortness of Breath, Swooning, Convulsions, Palsy, Apoplexy and Madness. Young men, if they be not much given to Wine and Women, may be cured by proper Remedies. But there are few Patients to be met with, that will observe Rules. The Gout and Stone often turn one into the other.

§. 12. Dietetick Cure.

The Air must be serene, pure and temperate. Juniper burnt is good to correct it, and so are Powders for Defluxions burnt. Meat must be easy of Digestion, and

and all salt Meats must be avoided. The *Drink* must be Beer well wrought, or Sydenham's Decoction. *Wine* must be very good and a little of it must be used, otherwise none at all. *Venus* must be avoided. *Sleep and Watching* must be moderate. *Exercises*, as Riding in a Coach or on Horse back, is good, and let not a man, if he can help it, confine himself to his Chair. The *Mind* must be kept cheerful with good Company and Musick. For they report *Limenius*, a Musician of *Thebes*, that by the sweetness of his playing he cured People: *Cardan* mentions him. But our Musick now adays is not of such virtue. The Patient must not study too much. The *excreta* and *retenta* must be agreeable to Nature.

§. 13. *Pharmaceutick Cure.*

THE *Galenists* give Clysters, then they give Preparers of Phlegm, Bile or Melancholy, which soever it is that offends; or mixt, if the Humors are mixt. When they are prepared, they purge with Medicines proper for the Humors, and with Arthriticks. Sometimes they vomit. If Blood abound, they let Blood. They commend Frictions, Ligatures, and Potential Cauteries. They give Sweats. They use dissolving, discutient and emollient Medicines. Last of all they apply strengthening things to the Part.

§. 14.

Petracelsus says, three things are requisite to the perfect Cure of the Gout, Purging, Opening, and giving Specificks.

§. 15.

Helmout says, That not only the Acidity must be looked after, but the seminal Character of the Gout must be removed from the Spirit of Life.

§. 16.

Allis, who reckons this among the Diseases of the Head, has these two curative Intentions. 1. To take away the Solution of Continuity. 2. To check the irritation of the Fibres, and the incandescence of the Spirits therein. To discuss the Matter already impacted, he commends Evacuators and Alteratives. He applies a defensive Plaster to the Part. He gives Vomits. He gives testaceous Powders in the Fit, and Powders of sharp Vegetables, which are alexeterick in this Disease. He uses Anodynes outwardly, and in extremity of Pain, Narcoticks. He applies Fomentations, Bags, Plasters. Sometimes he gives Opates inwardly. For prevention every Spring and Autumn he purges or vomits, and at some distance of time repeats the same thing. He bleeds or opens the Hemorrhoids. He advises Issues in the Arms and between the Shoulders. He gives altering Antidotes made of arthritick Medicines endued with a Volatile Salt and Balsamick Sulphur, and bitter and astringent things, such as

Ger.

Germinder, Groundpine, Centaury. Root of Gentian and *aristolochia*. He advises a Diet Drink of the Woods, Ivory, Harts-horn, &c. He likewise advises a Milk Diet for three or four Months, taking no other food morning nor evening but Milk warm from the Cow; about noon the Patient may eat Oatmeal or Barley Grewel with a little Bread in it. But this Diet will not agree with all Men.

§. 17.

Sylbius, to correct the acid and lixivial Acrimony, uses Narcoticks and Anodynes. When an Acid alone offends, he commends fixt lixivial Salts, and volatil also. When the Humors are turgent he purges or vomits. Then he gives Diureticks and Sudorificks. He applies divers topical Medicines. When the part is weak, he cures it by Medicines, that have a volatil Spirit and an aromatick Oyl in them.

§. 18.

The Cartesians make dull the angular and saline Particles. They evacuate, and strengthen.

§. 19.

Our opinion is, that in a Fit of the Gout. 1. Pain must be asswaged. 2. Strength maintained. Adodynes and Opiates asswage pain, inwardly and outwardly. We must then abstain wholly from Purges, because they would exasperate. For Prevention I use to give *Sydenham's* Electuary.

Take of Roots of Angelica, *calamus aromaticus*, Masterwort, Elecampagne, Leaves of Wormwood, lesser Centaury, white Horehound, Germander, Groundpine, *Scordium*, Calamint, Feverfew, Meadow Saxifrage, St. Johns Wort, Golden-rod, Mother of Thyme, Mint, Sage, Penny-royal, Southernwood, Flowers of Chamomil, Tansy, Lily Conval, Saffron, Seed of Treacle, Mustard, Garden Scurvy Grass, Caraway, and Juniper Berries. Let them all be gathered in their proper Seasons, kept by in paper Bags, and powdered. Let four Ounces of each of them be made into an Electuary with a Syrup made of Canary Wine and Sugar. Let him take two Drachms morning and evening. Or in defect of this;

Take of Conserve of Garden Scurvy Grass one Ounce and an half, Roman Wormwood and the yellow of Orange Peel each one Ounce, candied Angelica, candied Nutmeg each half an Ounce, Venice Treacle three Drachms, *pulvis ari composuit* two Drachms. With a sufficient quantity of Syrup of Oranges make an Electuary. Take two Drachms twice a day, drinking five or six Spoonfuls of the following Water after it;

Take of Horse radish Root sliced three Ounces, Garden Scurvy-Grass twelve Handfuls, Water Cresses, Brooklime, Sage, Mint, each four Handfuls, six Orange peels, two Nutmegs bruised, *Brunswick* Mum six Quarts. Draw off by a Still four Quarts for Use.

All

All Antiscorbuticks are good, but especially Buckbean: for I have had experience of it.

I am not for Bleeding. Blisters are proper, and actual Cauteries with *Moxa*. *Hippocrates* burnt with raw Flax. Baths and Plasters are good.

Out of the Fit, regard must be had to the antecedent Cause, namely, a sharp extravasated *lymph*a and the weakness of the Joynts. The *lymph*a may be corrected with Juice of Birch, the foresaid Electuary, and with Buck bean variously prepared. A strict Diet must be kept.

A Rheumatism is reckoned among these Diseases, and is cured much like the Gout: But in it Bleeding is proper.

In the running Scorbutick Gout, it is good to take a Meal-sack, whose Pores are filled with Meat, and heat it, and wrap the Body in it, for it is emollient and allwages Pain. The best course is a sudorifick Diet, for a Cure by Sweat holds freest from Relapse, which is worse than the original Disease, according to the *Arabian Aphorism*, *Omnis recidiva est deterior sua radice.*

C H A P. XV.

Of the Venereal Disease, Gonorrhœa and Nocturnal Pollution.

§. I.

SOME call the Venereal Disease the *French disease*; because when *Charles* the eighth of *France* laid siege to *Naples*, it was first observed in *Italy* in their Camp. Others say, that in the Year 1495. when *Christopher Columbus* with fifteen hundred men arrived at *Santo Domingo* in the *West-Indies*, where the People had the Pox, the Spaniards laid with the Women, and so were infected; and when they returned, gave it to others at *Naples*, and so it came to be called *morbus Neopolitanus*. Some say, the *Peruvian Indians* used to lie with all manner of Beasts, and by that diversity contracted a strange Ferment. *Helmont* (speaking of this Disease) brings in a Comparison of a Horse sick of Worms, how he infects other Horses, and he thinks some wicked Sodomite had to do with such a Horse and so came the Disease. *Casalpinus* l. 4. Art. Med. refers the first Contagion to Greek Wine infected with the Blood of leprous persons, sold by Spaniards to the French at a certain Town of Mount *Vesuvius*,

in the famous Expedition to *Naples*. *Paracelsus* derives the Original of this Disease, from a leprous French Man's lying with a Whore full of Buboës in the Exaltation of *Venus* at which time also her *Menses* were just come. These infected all they came near. And so the Pox was bred between Buboës and a Leprosie, as a Mule is got between a Horse and an Ass. Some call it *mentagra* and *pudendogra* and *morbus Indicus*.

This is a contagious Disease: got most usually by lying carnally with an infected Person. But it may be got other ways: The Mother may give it to her Child, and the Child to the Nurse. It may be got by kissing or lying in bed together, as by any contact of an infected Body. Some think it may be got by lying with a menstruous Women, whether she be sound or diseased. But this is false.

It may be described to be a *Dyscrasie* of all the *Humors* in the Body, consisting in a *volatil corrosive Acidity*.

A *Gonorrhœa* is either virulent or simple. A virulent one may follow the simple, if it last long, because

cause at last the white seminal Matter turns yellow and virulent. But it is usually got by coition. A simple *Gonorrhœa* is when the seed, that comes (which is improperly called Seed) is watry, thin and white, like Whites of Eggs, without Pain, or Lust, yet if it continue, it will waste the Body, and weaken the genital Parts.

Nocturnal Pollution is an Excretion of Seed with pleasure in ones Sleep or Dream.

§. 2. Part affected.

Symphius takes the part affected in the Venereal Disease to be the Glands, formerly they thought it to be the Liver. Some think it is the Spleen, others the Kidneys, others the Brain. I think the Subject is all the lymphatick Vessels and in a confirmed one the whole arterious, venous and nervous kind.

In a *Gonorrhœa* and Nocturnal Pollution the lymphatick and sanguineous Mass are affected, but chiefly the Vesicles wherein the seed is prepared, and kept for Ejaculation, and when they are corroded, the seed must be evacuated.

§. 3. Diagnostick.

THE chief Sign is a virulent *Gonorrhœa*, there is a Dulness of Body, Pain in the Bones, little Ulcers in the part first infected. When it is confirmed, there is a grievous Head-ach, Pains of the Arms and Legs between the Joyns, growing worse at night, Heat and Sores in the Throat and Palate, Hoarseness. There are sometimes Convulsions, Epilepsies, Madness, Melancholy, Pustules in the Head,

Fore-head, Nose, Lips, and stinking Breath. There are *tophi* and Tubercles in the Arms and Shin-bones. And to hide their Disease, some will call it the Head-ach, others the Scurvy, a Cachexy, a Fever or Itch. When the Disease is desperate, the Hair falls, yea, off the very Beard and Eye-brows the Teeth fall out, they have the Strangury; and sometimes their genitals are quite eaten away. There are Buboes in the Groin, *condilomata* both in Women's anus and Pudendum and in Mens Prepuce. There are several other Signs but these may suffice.

The principal signs of a virulent *Gonorrhœa* are Heat and Pain in making Water; the Urine is white with strings in it, there is a continual Erection and Irritation to *Venus*, there are some Ulcerous Pustules in the Privities, and other Signs before mentioned. A *Gonorrhœa* may be known to be malignant by the Putrefaction and stink, and by the yellow, green and corroding Matter that comes away.

The pathognomonick signs of nocturnal Pollution are Venereal Dreams with the Excretion of Seed, especially when one lies on his back.

§. 4. Cause.

SOME of the old way lay the Cause of the Venereal Disease upon the Humors; others upon an occult Quality. They make the Cause of a *Gonorrhœa* to be a pituitous Cacoehymy. They make the immediate cause of Nocturnal Pollution to be the Irritation of the expulsive Faculty by bad seed, and the mediate, are either humoral or flatulent.

§. 5.

Braccellus says, this Disease is bred by Sublimation of Mercury, by Heat, not excluding the Salt: for Mercury has its Acrimony and Corrosiveness from Salt, and a volatil Salt is never separable from Mercury.

In a *Gonorrhœa* he accuses a dissolved Salt.

§. 6.

Elmont makes the Cause of the Venereal Diseases to be a poysonous Ferment.

§. 7.

Sylvius, derives it from the Acrimony of an acid Spirit, and partly from a lixivial Salt.

§. 8.

THE Cartesians blame sharp, pungent, saline Particles in the Humors and Seed, and they derive all the Symptoms from thence.

§. 9.

We think, that the poyson in the Venereal Disease does principally consist in a volatil Acidity, but there is also a viscid Venereal Ferment joyned with that volatil Acrimony. This is the Cause of a virulent *Gonorrhœa*. And in nocturnal Pollutions it is a saline volatil Vertue in the Seed which causes Titillation.

§. 10. Prognostick.

THE Venereal disease and a *gonorrhœa*, the newer they are, the more easily they are cured. They are more difficult to cure in a diseased or foul Body, than in a healthy Constitution. The Pox with hoarseness is hard to cure; And a virulent *Gonorrhœa* with Swelling of the Privities, and stinking Seed, or if there be Ulcers or Caruncles in the *urethra*, is hard to cure. These Diseases make people barren. They are bad in old men. Women are not so much troubled with them, because they have the benefit of their *menstrua*. They are best cured in a hot Country or Season. A virulent *Gonorrhœa* turns sometimes to the Pox, and sometimes to a simple *Gonorrhœa*, which proves difficult to cure.

A simple *gonorrhœa* and Nocturnal Pollution are not dangerous, but oftentimes tedious Diseases.

§. 11. Dietetick Cure.

THE Air must be hot, pure and serene. The Meat Must be easie of Digestion, grateful and sweet, all salt and sharp Meats must be avoided. Drink must be a Decoction of the Woods and Roots. Or Physick Ale well wrought. Wine is very bad in this Case.

Sleep must be moderate. Lie not on your Back, lest the Vessels about the Kidneys grow hot. In a *Gonorrhœa* it is best to lie with ones Head high, and then he cannot so easily turn on his Back. I have known several cured so. Feather-Beds must not be lain on, but Quilts.

Use

Use not too much *Exercise*.

Let the *excreta* and *retenta* be kept in their natural State.

The *Passions of the Mind* must be kept in order. They that are troubled with Nocturnal Pollutions must be advised to marry.

§. 12. *Pharmaceutick Cure.*

THE *Galentists*; if the Venereal Disease be new; and if there be a *plethora*, let Blood, and give a gentle Purge or a Clyster; then they prepare gross Humors, and purge usually with extract of black Hellebore. Afterwards they sweat. If it is radicated, after they have bled and purged, they give a Decoction of *guajacum*, *sarsaparilla*, *china* and *sassafras*. They drink it warm in a Stove, or in Bed well covered with Clothes, to sweat well they change their Linen, dry themselves well, walk a little in their Chamber, and four or five Hours after they have taken the Medicine, they go to Dinner.

In Nocturnal Pollutions, having premised Universals, they go to Astringents internal and external, not omitting Vulneraries.

§. 13.

PARACELSUS *l. 2. de vita longa, c. 12.* observes three things, Purging, Cure, and Conservation. He purges with Mercury. He cures with *xylohebenum*. In a *Gonorrhœa* he purges with Milk of Turpentine, which is made thus.

Take of turpentine one Spoonful, the white of an Egg, Wine two Spoonfuls. Beat them together in a Pewter Plate.

He stops it with such Medicines as he stops other fluxes withal.

§. 14.

HELMONT thinks, the Venereal Disease can only be cured by Salivation with Mercury. He magnifies his *Mercurius diaphoreticus* in this Disease. In a *Gonorrhœa* and Nocturnal Pollution he commends divers Diaphoreticks made of Mercury, and Vulneraries, to imbibe an acid.

§. 15.

SIBBIUS has a twofold Cure of the Venereal Disease; an universal and a particular. The universal consists in correcting the acid Spirit, and in expelling it by convenient Ways, which he does, 1. By spirituous volatils. 2. By oleous and fat things. 3. By lixivial fixt Salts. 4. By watry things. Then he evacuates by Salivation, Sweat, and Purging with Phlegmagogues. Mercury and *Coloquintida* are his chiefest Medicines.

The particular cure belongs to the Symptoms. A *Gonorrhœa* is cured by the same Medicines. And the rest of the Symptoms are cured by Antivenereals and such things as you may meet with in their proper Chapters.

§. 16.

THE *Cartesians* use the same Medicines, to blunt their purgent saline Particles.

§. 17.

Our Method of Cure has three Indications. 1. The Depuration of the Blood, by throwing off the Venereal Poyson, namely the corrupt Acid. 2. The Preservation of the Parts from Corrosion by this Acid. 3. The Mitigation of the Symptoms and support of Strength. The Blood is depurated 1. By volatil, balsamick Salts. 2. By mild aromatick Oyls. 3. By terrene and metallick Medicines, or Medicines endued with a volatil Salt, or resinous things. The Poyson is thrown off by those things and by Diaphoreticks, Diureticks, and Salivation.

If the Body is Cachectick we may begin with Purges; and Antimonial, that Purge downwards, are here Specificks.

When the Body is Purged we must give appropriate Sudorificks.

Take of shavings of Wood of *guajacum* six Ounces, Sassafras two Ounces, the Bark of both each one Ounce, Root of *china*, *Sarsaparilla* each ten Drachms, Raisins stoned six Drachms, Liquorice scraped one Ounce. Boyl them in fair Water. To forty Ounces of the colature add of simple Treacle water one Ounce, Syrup of Buckbean one Ounce and an Half. Mix them. The Dose is four Ounces, three or four times a day, and sweat must be expected.

Borellus extols crude Antimony.

Take of crude Antimony, *sarsaparilla* each six Ounces. Tie the

Antimony in a rag, put it and the *sarsa* into three Pottles of Water, wherein the green shells and husks of forty green Nuts must be hanged. Boyl them to a third part. Let the Patient drink of it after Meal, Morning, Noon, and Night.

The Diet Drink may be continued for some days, yea weeks, and a smaller Decoction may be made of the remainder, which may serve instead of Beer. When the Patient has done Sweating, let him be wiped with warm Clothes, give him a Cordial, and then he may go into the open Air about Noon. Every ninth day he must purge. The Diet Drink must be continued till the Patient come to himself and all the Symptoms are gone. A spare Diet must be kept all the time. I communicate this as an experiment to the curious, I have Cured several Patients by giving between half and a whole Drachm of the true fat of Vipers in Conserve of Roses or Fumitory for some time. Gum *guajati* between half a Scruple and a Scruple is a good Remedy.

Salivation may be raised in this manner.

Take of *turpethum minerale* between three and five Grains, *Mercurius dulcis* six Grains. Make a Powder. Give it for several days, till it raises a Salivation.

Or it may be raised externally;

Take of Mercury killed with fasting spittle, with Oyl of Turpentine, or Lilies, or Worms two Ounces, *unguentum de Althaa Kernetij* half an Ounce, Oyl of Amber

Amber one Drachm. Make an Oyntment, wherewith the Joynts and Soles of the Feet may be rubbed, after the places have been first rubbed with a cloth.

This anointing may be performed once a day in the morning, an hour after one has eaten an Egg, or sup't a little Broth. It is safer to salivate by internal than external Medicines.

While the Salivation lasts, they must neither change the hot House, nor Bed, nor Shirt, and they must forbear Purging and Bleeding. Salivation usually arises about the Fourth or Fifth day, sometimes not till the Fourteenth, and when it begins it is usually over in Fifteen days, all which time the Patient must be kept with Chicken broth, &c.

For their ordinary drink Patients may drink a Decoction of the Woods.

We will briefly treat of the Symptoms. A *tentigo* may be Cured with Oyntment of Roses and *Mercurius dulcis*.

A *bubo* in the Groin, with *emplastrum Vigonis cum Mercurio*.

The nodes, by discutient, dissolving Plasters.

This is good for breakings out;

Take of native cinnabar, *sacchar. tindtur. sperma ceti*, camphore each a like quantity. With balsam of *Peru* make a Liniment.

In rottenness of Bones phlegm of Vitriol, not over sharp, is good.

Ulcers in the *sinus muliebris* may be cured with *unguentum diapompholygos* or *rosatum* with *Mercurius dulcis* and *saccharum Saturni*. *Unguentum de Minio* mixt with an amal-

gama of Saturn and Mercury is good to heal.

In Pains of the Limbs *emplastrum Vigonis* mixt with *emplastrum nervinum* and Balsam of *Peru*, is good.

In a Venereal Caruncle in the *urethra*, Universals premised, this Liniment will be proper;

Take of Honey burnt to ashes, Turkey, prepared, fresh Butter, washed in Plantain water to get out the Salt, yellow wax each an Ounce, burnt Alum half a Drachm. Mix them, make a Liniment.

With this Liniment spread a rag, covered on the inside with white Wax, of a convenient length and wideness, with a long thread run throw it, apply it to the Caruncle in the urinary Passage.

Ulcers in the Mouth, and anus may be cured with *aqua theriacalis camphorata*, or *balsamus sulphuris anisatus*.

The cure of a virulent gonorrhœa differs not much from the cure of the Venereal distemper. First therefore he may purge;

Take of Powder of Rhubarb twelve Grains, Venice turpentine two Scruples, *Mercurius dulcis* twelve Grains. Make them into Pills. For strong People a grain or two of *Mercurius vitæ* may be added.

And then he may continue in a Diet Drink, as formerly.

In a simple Gonorrhœa *Mercurius dulcis* is good. The Dose may be extended to fifteen Grains. A Drachm of boyled Turpentine in the yolk of an Egg is good. Then gentle Astringents will be proper. Gum, Amber, Balsam of *copaiva*, cuttle

cuttle bone, Tincture of steel, *tinctura antiphthisica*, &c. are Specificks.

The Loyns, *perineum*, *scrotum* and *anus* may be anointed with some proper Oyntment.

For pain, the *penis* may be dipt in sweet Milk.

Injections also of milk with proper things boyl'd in it, are good.

In Nocturnal Pollutions, the aforesaid universals premised, Diaphoreticks, Absorbents and Precipitaters may be given.

Moderate Astringent Specificks are proper, such as *tinctura antiphthisica*, Tincture of Coral with phlegm of Vitriol, &c.

If these will not do, we must have recourse to Opiates. Our *theriaca coelestis* and a little Turpentine, taken often, cures the *gonorrhœa* both Simple and Virulent.

Externals are of use in this Case, especially cold things applied to the Loins, as Purslain, *agnus castus*, Strawberry Leaves, a plate of Lead, *unguentum refrigerans Galeni*, *album camphoratum*, *rosatum*, &c. *ceratum santalinum* spread upon Leather, and applied to the region of the Liver, is commended by *Timæus* and others.

A
 COMPLETE SYSTEM
 OF
 PHYSICK
 Theoretical and Practical.

BOOK IV.
Of Fevers.

CHAP. I.

Of Fevers in General.

§. I.

Almost all Mortal Men, in *Helmont's* Opinion, have been took away by the Cruelty of Fevers, either Simple, or Complicate and Malign. Therefore I believe that He was not much out of the Way who called Fevers, which at this Day destroy almost the third Part of Mankind, the most common and usual Disease. *Hippocrates*,

lib. de Flatibus, confirms the same to be true in his Time: And also *Helmont* in *Tr. de Febribus* num. 1. saying, *Altho a Fever be most familiar to us, yet it is it that chiefly fattens our Church-Yards, and lays Wast our Camps. Scarce any Man dies without a Fever*, cries the Poet, intimating, that it is the most General Distemper. And seeing, that besides Intermittent, Pestilential, and Spotted Fevers, others daily rage amongst us: for that Reason the credulous Ignorance

ignorance of the Romans thought that a Fever was a Goddess, and erected Temples to its Honour; as *Valerius Maximus dict. factorumq; memorab. Cap. V.* does testify; perhaps lest it should hurt them and afflict the Body. Surely no Goddess, but a Fury of the Microcosm hath forced its way on every side through all Societies. This *Lernæan Hydra* spares no Age, Country, or Sex, but is destructive and cruel to all. But Intermittents are more favourable, than those that burn with constant Fires. For it is not so grievous to be tormented and tortured at certain Times, or every other Day, as to be continually and always so. But of all these we shall treat in Order.

§. 2.

A Fever, both amongst the Latins and Greeks, seems to have took its Name from Heat. The Latins derive it from the Verb *Ferbo*; which is the same with *Ferveo*, to be hot. For it is a certain Heat or Effervescency, whereby the Body is in a Flame, or violently hot; although *Paracelsus, lib. 1. Param. c. 6. Tom. 1.* writes, That its Name is erroneously derived from Heat, for that it is a Sign of the Disease, not of the Matter or Cause. By the Greeks it is called *πυρετός, ἀπὸ τοῦ πυρός*, that is, from Fire, or Vesuvian Flames, fiery Heat and Burning. *Willis* says that a Fever has its Derivation from the Word *februm*, or Off-scouring, which comes from the Verb *ferveo*; for he says, this Word best fits every sort of Fever, in that the Blood in this

Disease does ferment, and by its Heat, like new Wort that is a working, is purged from the Lees. Some will have it to be derived from *ferbo, ferbis*, and by Transposition *febris*. Others by the Word *februum* (as may be seen in *Varro*) understand a Purgament or Filth. For those expiatory Sacrifices which were offered for Purgation or Purification-Sake were called *februa*, as *Ovid, l. 2. Fastorum*, sings,

*Februa Romani dixere piamina
Patres.*

From whence some Pretenders to Physick do barbarously call a Fever, *Sanguipurgium*, or a Purger of the Blood. The Ancients also gave it the Name of *Querquera*, according to *Lucilius* the Poet.

*Querquera consequitur febris,
capitisq; dolores.*

It may also be called *Turbatio Sanguinis*, or a Troubling of the Blood, because the Essence and Formal Cause of all Fevers, consists in the disordered Mixtion of the Blood. But I am unwilling to dwell so long upon Words, and prefer the Shell before the Kernel. For from these Etymologies idle Wits raise many Disputes and Contentions. Thus the Latins have always derived a Fever from Heat. But the Germans, on the other Hand, call it a Shaking or Shivering.

For if a Fever does consist in Heat alone, then Shaking Agues, which we observe to be very frequent, cannot be called Fevers. For Cold and Heat are not the Fever, but rather the Effect of it; as *Helmont* has very well observed, when

when he says, That Heat is only a Symptom of the Fever, not the Fever it self. But seeing that Names do not always declare the Nature of the Thing, we will not therefore insist any longer upon them.

Definition.

AS to the *Definition* of a Fever in General, the *Galentists* define it *A preternatural Heat of the whole Body, caused by the various Disposition of the four Humours.* Or, which is the same thing, they describe it, by a hot and dry Intemperature. Hence *Hippocrates*, towards the end of his Book *de Natura humana*, saies, That all Fevers arise from Choler; and many Chymists deduce them from Sulphur alone. Others, who think they have hit the Nail on the Head, define a Fever by a *preternatural Heat.*

By *Willis* and his Followers it is defined, *A Fermentation or Effervescency risen in the Mass of Blood.* And in his Treatise of Fevers, not far from the Beginning, he writes thus; "A Fever is a Fermentation or immoderate Effervescency brought upon the Blood and Humours. So that according to this excellent Author, it consists in a notable Effervescency of the Blood and Humours."

Helmont explains the Nature of a Fever by the Accension of the *Archeus*; and says, That it is an Impurity of one Part of the *Archeus*, which therefore is affected with Anger and Indignation and raises such Motions.

But *Sylvius* describes Fevers by a preternatural Effervescency happening in the *Duodenum* amongst the

Juyces that meet together there, which Effervescency he does not deny to be afterwards augmented in the Heart.

Barbette will have it to consist in the encreased Circulation of the Blood, and asserts, That it is a certain Alteration in the Blood, and especially in its quickned Motion.

There are also *Others*, who think a Fever to consist in the Coagulation and Stoppage of the Motion of the Blood.

Paracelsus with his Crew of Chymists say, That it consists in the Burning of Sulphur and Nitre, or that it is an Universal Inflammation of the vital Balsam, and Mercury. Whereupon some Chymists deny that it's Essence does consist in a hot Intemperature, as an Accident, but rather in a certain Substance.

Others define it by an Ebullition of the Blood and Humours.

There are also some, who pretend that a Fever has its Original and Rise from those Globules, which were discovered in the Blood by *Mr. Læwenhæk.*

Many seek for the Cause in a vitious Acid coagulating the Blood, and fixing it in the Heart.

Others blame the Ataxy of the Animal Spirits, which in their Opinion, does occasion this Disease:

From what has been said it may appear how intricate and doubtful the true Cause and Essence of Fevers hath hitherto been. Insomuch that it is known to few in what place the febrile Matter does infallibly reside, and in what Acid or Humour it doth precisely consist, as *Helmont* in his Tract of Fevers, not far from the Beginning, testifies: A Fever is a Disease that is known even from the very first Invasion:

but as to it's Causes, Manner of producing, Place of its Abode or Remedies, Physicians are altogether in the dark.

But now to act our own part in this difficult Business; ~~we~~, with the *Cartesians*, describe Fevers by a more or less disorder'd Mixtion of the Blood, with an Ataxy and Ex-candescence of the Animal Spirits, which according to the Diversity of incongruous Particles, that compose the Blood and circulating Humours, become of a various Nature and Disposition.

When therefore a certain Humor, endued with a fermentative Quality, quite contrary to the Motion and Mixtion of the Blood, is perpetually, from it's Store-House in which it is heaped up by little and little, carried to the Heart; or only before a total Apyrexia happens, and the former Portion of the febrile Matter not as yet altogether attenuated, nor subdued by the Blood, or thrust out of the Body, is carried to the bloody Mass with the other circulating Humors, and by irritating the little Fibres of the Heart, hastens the Disorder of the Animal Spirits; then it is that a *Continual Periodical* Fever is produced. But if the Blood upon some Occasion do ferment, and its Parts be so inordinately moved that it can scarce in many Days be reduced to its former orderly Motion, then by Reason of the confused Mixtion thereof, and the corrupt Tribe (as the Vulgar express it) of grievous Symptoms depending thereon, we say the Patient has got a *Continual* Fever. And in this consists the Essential Difference betwixt *Continual* and *Intermittent* ones. That you may the better

imprint these Things in your Mind, you may take notice, That our Blood does so long retain a due and exact Mixtion, as those indefinite Parts that constitute it (perhaps such as Wine is compounded of) do so mutually touch one another, that the subtle Matter that fills up all the little Spaces can maintain a due Agitation of these Parts, and such as is agreeable to our Nature: but if a foreign æthereal Matter flow in, this Union is destroyed, and the Parts are all more or less as it were relaxed, and other Interstices and unusual Pores are formed amongst the fluid Parts. And from hence proceed so many Fevers and inordinate Motions and Fermentations of the Humors, and especially of the Blood. For by the active Corpuscles alone, Salt, Sulphur, and Spirit, the *Phænomena* of Fevers cannot be explained, because nothing is moved of it self, but has its Motion from something else. Therefore we affirm that the Motion of all the Particles that constitute the Blood, is from a most subtle æthereal Matter, which fill seven the least Intervals, and all the intelligible Pores, and exagitates the various Particles with various Motions. Furthermore, the Blood has this in common with Wine, that at some Times of the Year it is more exagitated than at others.

From what has been said it may easily be concluded, That the Essence and formal Cause of all Fevers does consist in the confused Mixtion of the Blood, and the Perturbation of the Animal Spirits thence proceeding. Yet every Thing which is mixt with the Blood, does not forthwith cause a Fever, but only that which is of a fermentative Nature,

Nature, that is, which disturbs the Mixtion of the Blood; of which more hereafter when we shall speak of the Cause.

§. 3.

THE Ancients affirm That there are divers Sorts of Fevers, some in the *Spirits*, some in the *Blood*, and lastly, some in the *solid Parts*.

The first they call *Ephemeræ*'s or *Diaries*, that is, Fevers that continue but one Day: to the second they give the Name of *Putrid*; and the third they call *Hætick*; to which also they add the *Plague*, *malignant Fevers*, and some other Diseases of the whole Substance, as they call them.

But *Sylvius* not content with this Number, hath found out some more, to which he gives divers Names, as, when it is accompanied with a Vomiting, he calls it a *Vomitory* Fever; when it is occasion'd by often going to Stool, he calls it a *Cacatory* one, &c. but Entities are not to be multiplied without Necessity: for it is sufficient that all the Symptoms be observed, after which it is altogether unprofitable to make divers *Species* of them, since they all differ only gradually. They are therefore either *Intermittent* or *Continual*.

There are many and other Differences, which are, as it were, subordinate, as from the Time of the Invasion they are either *Vernal* or *Autumnal*, some are *Quotidian*, some *Tertian*, some *Quartan*, &c. others are *Benign*, others *Malign*. For according to the Diversity of the Nature of those acid febrile Particles which variously disturb

the Mixture of the Blood, divers Sorts of Fevers are produced.

How *Putrid* Fevers differ from *non-Putrid*, Authors have not explained. It is true indeed that they say that in the *Putrid* there is an unequal Pulse; but this is only because the Drops of Blood that enter the Heart, are not all alike badly mixt: which however makes nothing to the real difference of Fevers.

In Our Opinion Fevers only differ in Degrees, as the Blood is more or less disturbed; and hence the Cure it self differs according to the Degrees of efficacious Medicaments. They differ also as to the Proximate and Remote Cause; for some have their Rise from the corrupt and acid Chyle disordering the Blood; others immediately from the Air, &c. Again they differ as to their Symptoms, the Cure of which is to be attempted as Necessity urges. The sweetness which we have often observed in the Mouths of Febricitants, is an Argument that the Blood is not vitiated with any Thing that is acid or bitter. Wherefore it is none of the worst Signs.

§. 4. Part affected.

IT is a great controversy and very dubious what the Subject of a Fever is, whilst some, especially the Ancients, make the Branches of the *Vena Porta* to be the Fountain of it; others the greater and more principal Veins and Arteries of the Liver; some the greatest Vessels of the Blood, and those that are next the Heart; many others, both of the *Ancients* and *Moderns*, make that noble *Viscus* the Heart, as to it Humors, Spi-

rits and solid Parts, to be the only and true Subject of it; which they prove from this, Because the Action of the Heart, to wit, the Pulse, is hurt, which many in this Distemper reckon the only Sign of a Fever. *Sylvius* accuses the *Duodenum*. Others, especially *Hellmont*, blame the upper Orifice of the Stomach. Most Physicians make the less Principal Subject of Fevers to be the Mass of Blood, or rather, the whole Body; for such Heat as is produced by the Heart, such is received by the other Parts, which, like Subjects, undergo the same Fortune with their King. But the first Passages, as the Ventricle, Mesentery, *Pancreas*, and other Glandules, also the *Viscera* appointed to elaborate and perfect the Chyle, many of which, having their Tone relaxed, beget nothing but acid Crudities, are said to be the Subject of the Cause.

We in short, make the Subject of a Fever to be all the Parts and *Viscera*, wheresoever there are any small Pipes, and also the nervous or fibrous Thread which is obvious every where in the Body. Neither do we exempt the Head; nor the Sanguiferous and Lymphatick Vessels; nor the Chyliferous, in which often those acid and feculent Particles are wont to lurk; no, nor so much as even the cutaneous Glandules, because that savage and febrile Acid is also sometimes wont to lodge in these. That the *Serum* is often the Receptacle of this Acid, I was convinced by experience in my Eldest Son, who when he was five years of Age, having took a Dose of *Mercurius dulcis* for the Worms, was presently seized with a very great Salivation; which, af-

ter that I had given him Opiats, and especially *Theriaca Cælestis*, immediately ceased, but he fell into a tertian Ague; then after Universals, giving him Anti-Febrificks the Fever withdrew, but the Salivation returned; a Month after I gave him Opiats again, and he fell a second Time into a Fever; then, laying aside Opiats, I made use of Purgers and Dryers, a Decoction of the Woods with their Essence, and so, God be praised, he was happily restored to his former Health. For the *Lympha* retained in the Body becomes acid, which afterwards being communicated to the Mass of Blood disorders it and makes it ferment.

§. 5. Diagnostick.

WE will here in few Words, give the Signs of a Fever in General, referring those, which discover a Fever in Special, or this, or that particular Fever, to another Place. But whatever Authors say of Cold and Shaking, they have left us no Marks whereby to know what *Species* a Fever is of, before that it hath made its period or Circuit of Intention and Remission.

A Preternatural frequent Pulse is accounted a Pathognomonick or inseparable Sign of a Fever; but I have observed the same also in other Diseases when there was no Fever. as in Faintings, Convulsions, Epilepsy, Jaundice, &c. and also the Pulse is always swift in Infants. After these the Physicians bring in great Weariness, Stretching, Yawning, Cold and Heat, Pain of the Head and Loins, Vomiting and Loss of Appetite, all which Signs may

may notwithstanding be observed in the Beginning of other Diseases, to wit, when the Animal Spirits do not irradiate the Parts as they ought; for from hence follow these above named Symptoms. But when a Physician hath observed the Type of a Fever accompanied with the foresaid Symptoms, he may certainly know what particular *Species* it is of; Therefore he will do well to attend diligently to these Things, lest he undergo the Calumnies of the Vulgar. Altho these conjunct Signs do, for the most Part, one way or other shew, that there is a Fever; yet they do not discover of what Particular Sort it is. For the Heat in Fevers sometimes is excessive, in some 'tis mild according as the tremulous Motion of the little Fibres is more or less encreased by the fluid Particles. There is often a vehement Pain of the Head by reason of the great Disorder of the Blood, and the Abundance of rigid Particles, and a too great Fermentation. Also there is a great and frequent Pulse, because of the augmented Fermentation, and violent Influx of the Animal Spirits into the Heart.

§. 6. Cause.

ALL Physicians agree that a Fever has its proper Cause, but because most of them (without Envy be it spoken) are confused and obscure in the Business, it is manifest that it still lies buried in the dark.

The *Ancients*, especially they that are Defenders of the *Galenical* Putrefaction, explain these Fevers by the four Humors supposed to

exist in the Blood (in which, according to *Hippocrates*, there are a Thousand) which they say do putrefie in the larger Vessels, and that *Phlegm* putrefies every Day, *yellow Choler* every third Day inclusively, and *black Choler* every fourth Day. So likewise from these Humors they derive all putrid Fevers; for by the putrefying of these Humors, and the Vapors that exhale from them, they explain the Heat and Cold, yea all the Symptoms of Fevers. Thus the Humor putrefying in these Vessels, enflames the natural Heat of the Heart and turns it into a preternatural or fiery one; whether it be from something within the Body, as Obstructions, Putrefactions, Humors and hot Vapors sent to the Heart or something without the Body, as Heat, of the Air, Sun, &c. And thus do they define a Fever in General by a hot and dry Intemperature.

§. 7.

THE Chymical *Paracelsists* do contend that Fevers do not arise so much from the Humors, as nitro-sulphureous Impurities; affirming that the Humors cannot be enflamed of themselves, but that whatever is enflamed is of the Nature of Sulphur. For *Paracelsus* himself doth attest, That the peccant Matter in Fevers is Sulphur and Salt-Petre. But in another Place, he says, That a Fever arises from the Obstructions of the Spirit of Life, and that the Cause of all Fevers is an Oppilation, which turns to Putrefaction. Therefore the followers of *Paracelsus* do explain the Causes of Fevers

(according to his Principles) by Sulphur, Mercury and Salt conglomerated here and there in the *Viscera*. Others elegantly deduce the Generation of them from vitriolated acid Salts, if they ferment with lixivious Salts and Sulphur: Like as when Oyl of Vitriol is mixed with Oyl of Turpentine, and when Nitre is mixt with Vitriol for the making of *Aqua fortis*, or when Water is poured upon quick Lime, or when *Aqua fortis* is poured upon Silver.

§. 8.

HELMONT ascribes the whole Work to the ferment of the Stomach corrupted and strayed out of its Precincts, and thereby irritating the *Archeus*; and saith, That the Matter does not fluctuate in the Blood, but sticks inwardly to the Vessels, and that the *Archeus* alone is the Cause of every Fever. For he saith, That the febrile *Blas* doth first raise a Coldness, and after that a Heat in the *Archeus*: for according to him, the *Archeus* will stir up febrile Shiverings, Colds and Heats, but not the peccant Matter. And for this Reason, as he says, *Tract. de Feb. c. 5. n. 4.* when a Bone is out of joint, forthwith the Patients Teeth chatter, and he is troubled with a Shivering. N. 14. he says, That the Gall does regularly change the Chyle of the Stomach from acid to salt, but that in Fevers it changes it preposterously into bitter. Also *cap. 10. n. 1.* he asserts, That Continual and Intermittent Fevers have one and the same Seat; and that the Difference does not rise from their changing

their Places, or from the Nature of their Lodgings, but only upon the Account of the Occasional Matter. Likewise also *Cap. 11. n. 8.* he says, The occasional Cause of Fevers, and the Matter is first. In the last Digestion of the Aliment, whilst that the solid Parts do assimilate the Nutriment into themselves out of the Blood, it happens very often that there are Alterations, and, as it were, preposterous Abortions. Therefore this degenerating Aliment, undergoing various incongruous Shapes, does also beget divers Fevers. The other occasional Cause of Fevers, according to him, is a Recrement or liquid Ordure, drawn by the Meseraic Veins out of the Extremities of the larger Intestines. If the Recrement be carried obliquely to another Place (which ought naturally to pass by Urin) it causes a continual Fever. But when the Aliment degenerates in the Passage of the last Digestion, for the most Part it is milder and insipid, and therefore causes Intermittents, which continue the longer according as the Matter of them is the more glutinous: But the Recrement is the fiercer, and therefore doth raise the more grievous continual Fevers, and which come the sooner to a Period. Or these two Excrements, or the two occasional Causes when they conspire together, do bring forth *Epiala's*, semi-tertians, Baltard-Tertians, illegitimate and erratick Fevers. Therefore the Intermittent require stronger Incisers than the Continual do, because they have a more obstinate and more glutinous occasional Matter which grows inwardly to the Vessels. But if that Aliment

ment degenerate above the Liver, it raises various Apostems, but not primary Fevers; and because in an Inflammation the *Cruor*, or the Aliment of the solid Parts degenerates into *Pus*, it also necessarily brings a Fever. And after it is come to the Height the Trouble and Pain is the less, as in Continual Fevers, and then either a *Crisis* or Abscess is at Hand.

Therefore *Helmont*, as we have already said, asserts, That Fevers arise from a peccant Matter, which being once existent in the Body, the Spirit of the Members or *Archeus* doth enflame it self by its own Exandescence, and being too much elevated, is extremely troublesome. But he does not say that there is any Heat in the peccant Matter, because if there were, it would act more violently near at Hand than at a Distance; Nay, that a dead Carcass, in which does remain a putrid Matter that grows hot by putrefying, would be hot. This therefore only occasionally heats, after the Manner of a Thorn, which occasionally causes a Heat and Tumor: Not because the Thorn heats, but in that the Spirit of the Members, that is, the *Archeus*, doth enflame it self, in striving to expel the occasional Matter, as if it were a Thorn. Whoever takes this away, whether by hot Things or cold, he wholly roots out the disease, and thereby the raging of this Spirit is appeased.

Therefore a Fever, according to this Author, is, not barely the Violence of Heat, but the occasional Matter, at the Appulse of which, the *Archeus*, as if it were enraged, enflames it self. He says, That the Thorn has its Seat in the first Shops,

from the *Pylorus* through the *Duodenum*, and the manifold Vessels that are there, the Intestines and Veins of the Mesentery, the Spleen even to the Liver; But that the nearer to the Mouth of the Stomach these Annoyances are, they are the more troublesome, and that afterwards more grievous Accidents, as Thirst, Want of Appetite, Head-Ach, *Carus*, Watchings, Anxieties do ensue. Furthermore *Helmont* says, That a Fever is not only an expulsive or alterative Endeavour, but that it is a Part it self of the *Archeus* enraged at the Presence of the hated Enemy, which is the occasional Cause. Hence it is manifest that the Essence of all Fevers does consist in the Exandescence of the *Archeus*, and only differs as to the occasional Cause. In like manner the *Helmontians* say, That a Fever may also arise without an occasional Cause, as when the *Archeus* does grow turbulent on its own accord, and upon some small Error inwardly assumes to it self *Species* of Madness, and by this Means is disturbed, and sequestred from the remaining Part of the *Archeus*. They further add, That this however is for the most Part provoked by the occasional Cause, which is like a Thorn; by means of which the *Archeus* is moved by its own *Blas*, which it hath from the Soul; and this *Blas* sometimes is so elevated, that the *Archeus* seems to take Fire. Now, according to our Author, these Thorns are nothing else than corrosive sharp Salts, proceeding from Indigestions, by the Ministry of which the *Archeus* is easily enflamed, and it is caused as often as the Blood by volatilizing is not ventilated. Or also

also the occasional Cause doth arise from hence in that the Chyle by the Fault of the Stomach, is become acid, and being carried into the Veins of the Mesentery through the Error of the Duumvitate, does cause a Fever.

Now the Reason, as *Helmont* will have it, why there is a quick preternatural Pulse in Fevers, is not through any Necessity of cooling, or to expel the fuliginous Vapours, but because of a most swift Dissipation of Spirits; for by a more speedy Pulse the Restauration of the Spirits is hastened. What *Helmont* says of the Causes of the other Symptoms of Fevers, we will show afterwards when we treat designedly of their Symptoms.

§. 9.

THE famous *Willis* (which Opinion *Boergland* also, and *Kerger* are of) treads another Path, and saith, That a Fever doth consist in a notable Effervescency of the Blood and Humors. For he affirms, that the Blood in a Fever doth mightily and with great Violence boil: because every Febricitant (be he never so ignorant) complains of the Blood being affected, and of its fermentating in the Vessels, and as it were, running mad. Furthermore, he presupposes the Juice that irrigates the nervous parts and the Brain, to be transmitted out of the Blood into the Nervous Stock by an even motion and a certain Circulation, and from thence again to be refunded into the Blood: which Juice if it receive any Taint from the Blood, or is perverted in its Motion, is the Authour of Pains, Shakings, Convulsions, *Deliriums*,

Phrenzy, and of many Symptoms of the Nervous Kind. His opinion is that the Nutritious Juice or Chyme, is supplied out of the daily Food, is mixed with the Blood, becomes a perfect Humor, and is by it, whilst it circulates, assimilated into it self; at length, waxing old, is separated and set aside to the Nourishment of the Parts. So long as these Mutations are rightly perform'd, he thinks that the Blood ferments as it ought to do: but if this Juice be not duely maturated by the Blood nor assimilated, but confused and remains in the Blood like some heterogeneous Thing; that then a febrile Ebullition happens, yet not always, but only then when the Blood is fully saturated. Now, he says, That this Juice is not corrupted by its own Fault, or of the *Viscera*, but by the Fault of the Blood; for that the Blood when rightly disposed does sanguifie, but if it do degenerate from its native and genuine Disposition into a sharp or austere one; that then also the Stock of the Nutritious Juice is perverted.

He does not compound the Blood of the four Humors of the *Dogmatists*, viz. the Blood strictly so called, *Phlegm*, and both the *Cholers*; but of the five Principles of the *Chymists*, *Spirits*, *Salt*, *Sulphur*, *Water* and *Earth*. But he thinks that *Phlegm* and both the *Cholers*, being Recrements of the Blood, are shut up in their proper Receptacles, or in the narrow Passages of the *Viscera*, and are not mixed with the Blood, and therefore cannot be the Cause of a Fever.

He also makes a two fold Fermentation in the Mass of Blood; one

one *Natural*, the other *Morbous*. He drives the *natural* from a double Cause, from the *Craſis* of the Blood it ſelf, which conſiſts in a due Proportion of Sulphur, Salt, and Spirit, and from *Hogelandus's* Ferment, or *Cartes's* Fire hid in the *focus* of the Heart, which in a Moment kindles the Blood that flows in thither. The *morbous* he places in the Diſproportion of one or more of the Principles.

From the *morbous* fermentation he ſays, That Fevers have their Births, and according to the three-fold Degree, or Way of Fermentation in the Blood, he makes a threefold Difference of continual Fevers. For that either the Spirit alone, or alſo the ſulphureous and oily Subſtance does ferment, or that the Blood is infected with a poiſonous Miaſm. From the firſt he derives an *Ephemer*a of one or more Days, or a *Synochus*; from the ſecond *putrid Fevers*; from the laſt, the *Peſtilence*, *Malignant Fevers*, *ſmall Pox*, and *Meazles*.

This Author furthermore makes the natural Temperature to be exceeded by a third preternatural Way of Efferveſcency, wherein the Blood undergoes an alteration which never happens to Wine, but very often to Milk; to wit, ſometimes this liquor is coagulated by the morbiſick Cauſe, ſo that its Subſtance is ſcattered and falls to pieces, and the thick and terreſtrial Part is ſeparated from the thin: by means of which the Blood does not well circulate in the Veſſels, but ſome frozen Portions of it being apt to ſtagnate in the extreme Parts or in the Heart, do interrupt or mightily hinder the equal and even Motion to reſtore which greater

Efferveſcencies than uſual are raiſed in the Blood; ſuch as are wont to be in a Pleuriſy, malignant Fevers, &c.

§. 10.

Splivus, from the various Cauſes of a preternatural quick Pulſe acting variously, ſearches out various *Species* and Differences of Fevers: the Cauſe of which he makes the too great and permanent Rarefaction of the Blood; ariſing from a ſtrong Fire, breaking forth by the Efferveſcency of both ſorts of Blood.

He therefore blames every Thing that's ſharp, ſometimes an Acid, ſometimes a lixivio-ſaline, ſometimes a briny-ſaline driven through the Veins with the Blood to the Heart, and inwardly twitching its *Parenchyma*. Alſo every dry Flatulency, carried in like Manner with the Blood to the Heart, or raiſed by the Efferveſcency of the Blood in the Heart, and increaſing the Dilatation of it's Ventracles. Alſo every thing that's ſharp or hard in the *Pericardium* or elſewhere, and inwardly gnaws or pricks the Heart.

And to the cauſing of Fevers he thinks the *Succus Pancreaticus* does very much contribute, whiſt ſome Part of it ſtagnates in one or more of the obſtructed lateral *Ductus's*, and is made ſharper by its long lying there; for by that acid Acrimony it forces it's Way through the more or leſs viſcid *Pituita*, and whatever occaſions that Obſtruction; and being poured into the *tenue Intestinum*, and there mixing with Choler and Phlegm makes a vitious Fermentation.

tion. So that *Sylvius*, to be brief, will have the Cause to be, the *Succus Pancreaticus*, made somewhat sharper by reason of the Passages, that are stopped and a vicious Fermentation thence ensuing; which Acid, together with a predominant lixivial Salt conveyed to the Heart through the *Vena La-ctea*, he concludes to be the Cause of a preternatural Heat there.

A Physician of good Quality bears up against the Opinion which this Practitioner entertains of the Pulse, saying that the Quickness of it is no true sign of a Fever. (1) Because it is Notorious that the Pulse is very quick in the Cold Fit as well as in the Hot, and yet not one of the *Sylvians* will affirm that the Circulation is augmented in a Cold Fit. (2) And that we may more accurately understand this, let us consider what a Pulse is, and how it is made: A Pulse according to him is nothing else but a very quick or Convulsive Motion of the Heart & Arteries. Now the Heart is a Muscle, or rather made up of many Muscles which open and shut dilate and contract it. And he proves that the Opening or Constriction of the Heart, comes from the Influx or Afflux of the Blood, because so often as the Heart is contracted and freed from Blood, so often does it beat; for the Blood does not move the Heart, but the Heart receives and sends it out again, or rather discharges it self, just as Water is pumped out of a Pump. So that he reckons that a quick or slow Pulse comes from nothing else but the quicker or slower Motion of the Arteries, (which Arteries are so many Pipes and Channels that receive and drive

on the Blood, not by Means of the Blood it self, but the little Muscles, after the same Way that the Heart does) From whence he concludes, that the Heart and the Arteries may be quickly distended and contracted, tho the Blood be thin, hot, and in a very quick Motion; nay, tho it be gross, cold, and in a brisk Motion; for seeing the Heart can beat without Blood, it may also beat if the same Blood be thick. For the Pulsation of the Heart does not properly depend upon the Blood: nay, it is plain as he says, to any considerate Person, that the Blood which is thicker and slower mov'd, is the Cause of a quicker Pulse: The Reason is this, Blood which is gross and moves slowly, passes with great difficulty through the smallest Arteries into the Veins, so that the Heart, that it may discharge it self of the Blood, stagnating, as it were, in the Arteries, must beat very quick, that so what cannot by one, may be effected by frequent Pulsations. And he declares the Passage to be paradoxical, that is, That a quick Pulse in Fevers is not a Sign of an Augmentation of the Circulation and Effervescency of the Blood. And the same Author likewise says, That the Opinions of *Sylvius* and *de Graaf* about the Pestilence are invalid. For whereas *Sylvius* attributes the Cause to a sharp, piercing, Volatil Salt; the fore-said Author proves by these following Reasons, that it does not consist in any such Thing. (1) Because those Remedies which are prescribed in the Plague, for the most part consist of volatile Salt, as volatile Salt of Harts-horn, Vipers, &c. (2) Be-

(2) Because there is a great Resemblance betwixt that and those Diseases which arise from an Acid. And also because Oil of Vitriol, Salt, and all Acids immediately infused into the Blood of any Creature cause the same Symptoms.

§. II.

OUR own Opinion is, That the Nature of a Fever consists in, nay has its Original from, some heterogeneous Particles mixt with the wholesome Mass of Blood, that have no proportion with it either in Figure or Motion. That is to say, that it is composed of such Pores, and indeed round *Globuli*, which leave interstices that are pervaded by a subtil Matter, which has no Commerce with that which runs through the good Mass of Blood. So that when any incongruous thing is intimately mixt with the Blood, then there happens an unusual Fermentation or Effervescence thereof, and thereby the Animal Spirits are disturbed and infested, whence proceeds their Ataxy or total disorders, and from hence several preternatural Symptoms, a very quick Pulse, a *Delirium*, phrenetic Convulsion, very often occurring in Fevers, may be derived. So that as often as the Exotick Particles of the Blood, such as are the Pointed, and those that have many Angles; as often, I say, and so long as these Particles predominate, and consequently raise a confused Motion; so often and so long the Fever rages in the Blood, and seizing upon the Heart and Brain does sometimes cause utter Ruin and Devastation there. So that the Blood is so long kept

in an exact Mixture, as those indefinite Parts that compound it do mutually touch one another so close, as that the subtle Matter, filling up all the Intervals, is able to keep those Parts in their due Motion: But this Tie is dissolved whenever other spaces and unusual Pores are made amongst the fluid Parts, and from hence, in our Opinion, daily do proceed so many Fevers and inordinate Motions & Fermentations of the Humors. So that we do suppose the Essence and formal Reason of all Fevers to consist in the disturbed Mixtion of the Blood, and which proceeds from that, the disorder of the Spirits; tho every thing that is mixed with the Blood, cannot presently produce a Fever, but only that which is of a fermentative Quality; for thereby the Mixtion of the Blood is hindred, and consequently the Animal Spirits disordered; such as are Salts, Recrements, and disproportionate Particles; likewise disagreeable Sulphurs, the *Lympha*, or Chyle corrupted with an Acidity, and such like, and that which we call a febrile Ferment, which may easily be communicated to the Heart by the Lymphatick Vessels from all the Parts and *Viscera* of the Body, and in its most inward Recesses disturb the Mixtion of the Blood; as may be proved by Wounds, *Buboes*, and Ulcers. Yet we are of Opinion that a Fever proceeds commonly from the Non-naturals, as they call them; from the Air infected with disagreeable Corpuscles; from irregular Eating and Drinking, which supplies the Blood with nothing but vitious Chyle; by the Intermission of some usual Evacuation;

vacuation; or the Passions of the Mind.

But some Difficulties arise touching this Opinion, as (1) Whether certain Particles of the Blood are blended amongst one another in some certain Order, which upon the coming of the Fever are changed and confounded? (2) What the Effect of this confused, disorderly Mixture is, and in what Order those Particles are disposed in time of Health? (3) What it is that thus disorders the Mixture? (4) How the Blood thus troubled can cause a Fever? And (5) How from this *Hypothesis* an Account can be given of the *Phænomena*, and Symptoms of Fevers? So that we are to shew first the certain Order of the Mixtion of the Particles in the Blood; then How they are disturbed; and lastly How a Fever comes from this Disturbance. We must therefore observe, that the Order and Harmony of the Particles in the Blood, consists in their due Motion, Figure, Magnitude and Situation; for they are in no Confusion, but have a proportionate Mixture whilst in a Natural State; which is disordered by a supervening Miasm, or a febrile Ferment: And this does not Consist in the sensible Particles, as may happen in any Indisposition and Caco-chymy, but in the insensible. Now the Effect of this Mixtion is this; That the proportionate Fermentative and Vital Motion of the Blood may be preserved, and all the vital Actions commodiously performed. The natural Order of the Particles is such, that there is no Appearance of any that are either Acid, saline, bitter, watry, or viscous, &c. which *Hippocrates* long since

taught; but all of them ought to be so tempered together, as to conspire in one and the same Motion.

Now that disturbs the Mixtion of the Blood which brings in another ætherial Matter that proves the Author of another Motion: that is, the Pores of the Ferment do not in every Respect answer the Pores of the Particles that constitute the Blood, so that there arises a Confused Mixtion in the Heart, where it ought to be most exact; and in this consists the essential Cause of a Fever, and not in the Blood troubled or disturbed. It is therefore clearer than the Sun at Noon day, that all the Symptoms of Fevers, allowing this to be the formal Cause of them, may be very easily explained, as we see daily in the Modern Schools. Of all which we will be more large when we come to treat of Fevers in particular.

§. 12. Prognostick.

THE greater or less the Disorder of the Blood is, the more or less dangerous is the Fever. Those who are fat are not so apt to have Fevers as those that are lean.

Muddy Urine without any Sediment, is a great Sign of the Disorder and Confusion of the Humors; the sooner that it abates of it's Colour, and the Sediment being of a good Consistency, settles of it's own Accord; by so much the shorter will the Fever be, and it is a Sign of a good *Crisis*; for the redder and thinner it is, so much the Worse.

A weak Pulse presages a doubtful Event; an Intermitting one, except

except at the same time very weak, is not always mortal.

A good Pulse, that is, a great and equal one, though accompanied with bad and grievous Symptoms, is Better and Safer than a weak Pulse with those that are milder, for this often proves Mortal.

Autumnal Fevers are more dangerous, and attended with worse Symptoms than the Vernal, the Blood in Autumn being deprived of its Spirits.

§. 13. Dietetic Cure.

Seeing the whole Business of Physick is to conquer the Disease, and cure the Patient as far as is possible, and as *Hippocrates* says, not only to keep him in Health, when he is well, but also to prop him up, when he is like to fall, and when he is fallen to rear him up again. It is of great Moment to learn the General Curative Indications of Fevers, according to the Constitution of the Etymology, Definition, Subject, Differences, Signs, and Causes, which we have hitherto, but slightly mentioned.

And first, that we may be Methodical concerning Diet in Fevers *Hippocrates* writes well *l. 1. Aphor.* 1. That not only the Physician, but the By-standers, and the Patient himself must bear a part, or else no Remedies can be administered, if either the Attendants, when the Physician has prescribed a good Thing, omit to give it, or give it him unseasonably, or do something about him without the Physicians Advice, which may afterward prove hurtful to him; for poor sorry Women which sit by, or wait on the Patient, both Kin-

dred and Friends that come a visiting, are wont to force much meat upon him to his utter Ruin, and this too, as the tatling Fools pretend, to keep up his Strength.

Now the main Business of the *six Non-naturals* regards the Patient's strength, his Cure only by Accident. Therefore first of all the *Air* is to be considered, from which a Fever generally has its Original, especially if it be infected with exotick Corpuscles. Let that which is pure, serene, and temperate, be chosen; if that which is naturally so cannot be had, it must then be made such by Art. That which is too hot, is to be avoided, and also that which is too cold, because it shuts up the Pores: So long has this opening and shutting of the intercutaneous Passages been observed by Physicians, that *Galen* in his time did not reckon it to be the least Cause of Fevers.

As to *Meat* in this Case it consists in Quantity, Quality, and the Way of taking it.

And first for the *Quantity*, We must consider that those, who are apt to have Fevers, have always some hidden Morbific Causes within them, which easily hasten a confused Mixtion of the Blood; Therefore the feverish Matter is only augmented by much eating, nay, the Chyle becomes more viscid, gross and acid, which if it gets into the Mass of Blood, an intermitting Fever must necessarily follow; so true is that Saying of *Hippocrates*, 2. *Aphor. 10.* *The more you feed impure Bodies, the more hurt you do them.*

Therefore they who humor Feverish Persons in this Point, do not at all consult the Patient's good; nay,

may, run him into a manifest Mischief; for the Stomach of Febricittants, by reason of the Stupidity of the Faculty in the *Viscera*, and the nervous little Fibres kept in continual Motion, and made more lank by much Drinking, is very faint, and the Chylification, through much Eating, is rather hurt and its Fermentation spoiled, and by that means breeds Fuel for the Fever. And for this reason *Hippocrates*, 7. *Aph.* 65. says, The meat which is given to one in a Fever; as when he is well it is a Strengthening to him, so here it is an Increase to his Disease. So that in the most acute Fevers which have commonly their *Crises* the first four Daies, they must use a very slender Diet. In acute Fevers such a slender Diet is not altogether required: And here ought to be considered, the Climate, Season of the Year, Age, the Diversity of the Fever; as to which this or that thing is, or is not Expedient, according to *Aphor.* 11. §. 4.

As to the *Quality* of the Meat, *Hippocrates* advises the Patient to Soups rather than solid Meats. For such Diet is more agreeable to Nature, which is sooner refreshed by these, and not taken off from the War, which it has undertaken against the Disease. And it is easier, says *Hippocrates*, *Aphor.* 9. §. 2. to be refreshed with Drink than Meat.

As to the *Manner of taking* Meats, we are here to know that the Patient must not eat at all in the Accessions of Fevers, in which thing there is a great Errour in this Age, as we have already said, when most Physicians allow their Patients Meat without observing

Difference of Time. For Nature whilst in the Accession it is striving against the Disease, is not so intent upon providing of Aliment. So that the Meat not being fermented, aggravates the Fever and its Symptoms. And *Hippocrates* l. 10. *de Acutis*, also tells us what Inconveniencies happen upon the unreasonable giving of Meat. Tho there are some Cholerick, Hot, Sulphureous Bodies of a most exquisite Sense, who, being used to great Toil, and to feed heartily, if they do not eat in the Beginning of the Fit, fall into a *Syncope*, *Marasmus*, &c. which *Galen* tells us of, 10. *Meth.* Cap. 3. speaking of a Youth, who, having a Tertian Ague in the Summer time, if he did not eat when the Fit was coming, fainted away. But one Swallow does not make a Spring: however I think we should allow something to Custom. But many politick Physicians think they have no more to do, than to please the People and seem to be careful of the Patient's Strength; whose preservation I would have them know, does not depend on Words, but a proper Administration of Remedies. But the World loves to be impos'd upon. In like manner, as I do not like too severe Physicians, so those are still worse that are too favourable for Conscience sake, as *Asclepiades* at Rome; who allowed his Patients Baths, Wine, Flesh, and what ever they longed for, or was grateful to them; by that means cunningly Winning the Hearts of the Romans, no doubt, not without the manifest Injury and Death of many. But enough of this.

As to *Rest* and *Exercise*. Immoderate Motion is oftentimes hurtful, and may cause a Fever; because by that Means the febrile Particles that lie lurking in the little Passages are mightily forced out, which communicated to the Mass of Blood, are apt to disturb it and produce a Fever. And likewise too much rest is ill, because by that means the Particles through too great rest and Vacation contract a Malignancy, which afterwards through their superabundance swell and disorder the Blood; therefore the Golden Mean is the Best.

The same Measures are to be taken in *Sleeping* and *Waking*.

The *Mind* ought to be free from Cares, fright and Grief; for by these you may quickly hasten a Fever, nay Death it self.

Take Care that *Evacuations* and *Retentions* be according to Nature.

§. 14. Cure.

WE come now to the Cure, and first according to the Opinion of the *Ancients*: We must observe in general, that every thing which is Preternatural does indicate a Removal thereof, as *Galen* teaches, *l. 8. Meth. Med. c. 1.* So that if a Fever, according to the Dogmatists, is bred of Heat and Dryness, we must in the Cure have recourse in the first place to Cooling and Moistening Things; for which Reason *Galen, lib. 9. Meth. Med. c. 14.* says, every Fever, as such, is Cured by Moistening and Cooling Remedies; which *Hippocrates* confirms, *lib. 1. Aph. 16.* And they usually cure Fevers

by Venesection, Purging, Clysters, according to that of Monsieur *Mollier* the French man,

Clysterium donare, postea Purgare, venum secare, &c.

For they endeavour to carry off the Putrid Humors, which breed that preternatural Heat in Fevers. Their other prescriptions are either things Cold or Moist, as several Al-terers, yea and they prescribe variously, according to the different Symptoms. Others of them, as *Avicen*, after they have opened a Vein in Fevers, are of Opinion, that the Belly ought to be loosned with *Manna*. Others order first a Purge, and then to breathe a Vein: For this is their main Drift in Curing, to root out the Mine of the Disease, which they say is in the Humors, and so clearly to extirpate the Febrile Matter out of the Body, that there be no Remainder of it left, or any fear of a Relapse; for which Reason they ply the Patient with Catharticks, Vomitories, and also Venesection, for that is *Galen's* Opinion, *9. Meth. c. 5. de Sang. Miss. 20.* If a Crudity, either of Meats in the Stomach, or Excrements in the Intestines did precede, that Bleeding should be deferr'd so long as shall be thought sufficient for the Concoction of the Meat and Descent of the Excrements. Therefore several of the Ancients before they breathe a Vein, if they think the Stomach and Intestines be stuffed with Excrements, do usually, according to *Galen's* Advice, defer the Remedy for a short Time, and in the mean while Exonerate the Body with some Lenitive Medi-
cines;

cines; provided the Disease will admit of so long delay, and that there be no danger in such an Omission. But if it prove otherwise, and the Disease be so violent, that it will not admit of Delay, then having first given a Clyster, they presently fall to Venesection, after that, if there be occasion, they forthwith give loosning Medicaments. *Avicen*, after Venesection, as we said before, advises the Belly to be moved with such things as these, Barly-water, and a little *Manna*; who on this occasion prescribes three Medicines; the first is made of Barly-water or Ptisan, which, according to *Galen*, 1. *de Rat. Vict.* 18. does gently loosen; and *Manna* which also was not unknown to *Galen*, and which, 3. *de Alim. Facul. Cap. de Melle.* he calls Aereal Honey. The other Remedies for Fevers prescribed by the Galenists, are Distill'd Waters, Cordials, altering Broths, with Cream of Tartar, which dissolve the *Mucus* in the Stomach. Their other Remedies in this Distemper we shall particularly speak to afterwards.

§. 15.

Paracelsus, who, contrary to the opinion of the Galenists, is against Blood-letting, says, Take this brief Account of Fevers; First of all, let there be a Febrile Purgation, then a Specifick Cure, and a Causal Diminution, so as that a Mercurial Vomit preceed the second Medicament. For by this Purgation all the Fever is expelled in the Peccant Matter; besides, if the Disease be not prolonged, neither Cure nor Diminution is necessary. For a Mercurial Vomit ma-

ny times works a perfect Cure. But if it be spread into the Members, his *Laudanum* presently follows, which expells the Fever, and also the Dilatation. But an Evacuation, whether by the *Salvatella*, or *Cephalica*, or that which is usually done by the Spine of the Back, removes the Peccant Matter in the Blood, and that between the Flesh and the Skin. So that in this place there are three things which do the same thing in a Cure, all of them perfect in themselves. Lastly, that the Physician may not Prescribe more or less than is fit, he must carefully observe, what is, and what is not dilated. And he saies in another place, Essences also, Extractions and Magisteries of the greater Medicines, restore the Body, and set the Patient on his Legs again; he Cures Quotidians, Quartans, Continuals, and Diaries, and he thinks there are above two hundred several sorts of Fevers.

He makes the Cure of Fevers in the Stomach Two-fold, C. 3. Tr. 1. lib. 2. *de Tart.* therefore Purgation is to be used without Digestion, and *Laudanum* Pills, according to him, are to be given before the Fit: For he would have all Medicaments in Fevers to be given before the Fit, that they may Operate together with it. Every thing that Evacuates should be order'd so as to work both upward and downward. In this Purgations with a Vomit should be an *Arcanum* and not Galenical. For Tartar it self is a Specifick Subject in the *Arcana*, as are Centory, Hellebore, Spurge, Colocynthis, &c. In the same place, Chap. 7. he Describes some Pills. He makes a Three-fold Cure for Fevers of the Liver; Deoppilation,

tion, Mundification, and Instauration. For Fevers in the Reins he commends *Alcali* of Shells, Crystal, Mummy, &c. Sweet-oyl of Sulphur, of Vitriol; and in other places he commends Opiates. And his Chymical Followers mention a thousand things more, some of which we shall speak of when we give our own Opinion.

§. 16.

Helmont has one Cure for all Fevers, but discommends Bleeding, which is the only Remedy that the Galenists use in this Distemper, and brings an Example of one who was Blooded so often, that when he was open'd, not a drop of Blood was found in his Body, and yet the Fever did not abate to the very last, but rather kept its Circuit of Intention and Remission. And this Author further adds, that Bleeding steals away the Spirits, so that the Strength is not so soon repair'd, and the *Crisis* is put by, and that if the Patient do grow well, it is not till of a long time, and with some fear of a Relapse; but they are easily recovered without Bleeding. *Helmont* farther saies, That by Venesection a Passage is rather open'd for Corruption to flow to the Heart, than prevented by it. Besides, he saies it is a Ridiculous thing to think that Venesection can cause Revulsion; because the Febrile Matter does not fluctuate in the Veins, but sticks to the in-side of the Vessel, so that it separates nothing that is to be separated; because it Acts without fore-knowledge of the End; and that which is the nearest goes out first, which is followed by the next

to that, for fear of a *Vacuum*; and by this means the Terms also are stopt, which makes *Helmont* brag, he can Cure all Fevers without it. Besides, the Turks and other People are Rescued from Fevers, who yet know nothing of Venesection. Both *Helmont* and *Paracelsus* extol their *Arcana's*, which, as they Brag, never failed them. For, they say, they have Cured all Fevers with one single Dose of *Mercurius Diaphoreticus*, and an Hectic in a Months time, and a Quartan with one Draught of their *Arcanum Coralinum*. For in *Helmont's* way of Curing Fevers, the occasional cause is not only to be considered, but the Dignity and Perturbation of the *Archæus*; and those things which offend Materially, are easily forced by Nature, the Confusion of the *Archæus* ceasing, as soon as they are reached by the *Arcanum*.

This Author Brags, he has Cur'd Fevers without Blood-letting, and that he allow'd his Patients Wine; Nay, he says, that Person does not deserve the Name of a Physician, that cannot Cure a Fever within the space of four Days; and this is that Sudoriferous Medicine, viz. *Mercurius Diaphoreticus* which Cuts, Attenuates, Resolves, and Grinds off the occasional cause wherever it be, which it often effects without Sweating. Yet, he saies, that particular Remedies which do not come up to an Universal Amplitude, are Salts of Cephalick Things, as Marjoram, and Rosemary; but they must be Volatile Salts, not *Alcali's*, and they must contain in them the *Crisis* of the Simples, such as Temper'd Diureticks, which should always be given upon an empty Stomach, and

before the Fit in Intermitting Fevers, and in Continual at any time. *Helmont* orders the Patient Beer Coloured with Wine, and a Crust of Bread, not so much for Nourishment as Humectation. He is against Cordials of Alkermes, Pearls, and Gold, because neither Gold nor Gems do inwardly refresh Nature, in that they do not Symbolize with our Spirits, which *Petronius de Victu Rom. c. 4.* does confirm. But the only Intention of this Author is to Cure a Fever by Sweating; for the *Archæus* commonly Enflames it self by its own Excandescence, and pours forth a Hot Sweat, shewing the Physician the way how to Expel that Feverish Heat, viz. by Diaphoreticks, which are the only Appropriate and Specifick Remedy in Fevers.

§. 17.

AS to what concerns ~~what~~ his way of Curing Fevers, especially Intermitents, he has these following Intentions: First, To restore the Blood to its Natural Temper. Secondly, To prevent (as much as may be) the Depravation of the *Succus Nutritius*. Thirdly, To hinder a Feverish Fermentation, for fear a Fit be caused. And he thinks that in the Cure of this Deftemper, more is to be Attributed to Nature, and an orderly Diet, than to Physick.

To satisfy the first Intention he commends Vomitories, Venesection, and Purgation, which are to be Celebrated and Administred in the beginning of the Disease; but afterwards to be omitted as doing little Good, Nay, that they often do Hurt; it being a thing Notorious,

that a Tertian Ague is seldom or never at all Cur'd by these Remedies, when used too late, and that thereby it often turns to a Quotidian, And this Author knew some in perfect Health, who by taking a strong Emetick for Prevention in the Spring time, and causing a violent Evacuation, have fall'n presently into a Tertian Ague: Others he has known to have suffered a Relapse, because the Morbifick Matter which lay asleep, was by Purgers rowed up again: And therefore he prefers gentle before strong Catharticks. He says, Vomitories do great good both by Evacuating the Stomach, that Concoction may the better be performed, and that thereby the *Chymus Nutritius*, of which the Blood is to be made, may be more pure; and especially because they empty the Gall-Bladder by Copiously forcing Choler out of the *Meatus Choledocus*, that thereby it being more plentifully drawn out of the Mass of Blood, it may be Purged of its Saline Recrements and Aduft Sulphur. Of Venesection he says, that it Cools and Fans the Blood, and hinders it from being too Hot, and as it were Roasted, and makes it more freely, without danger of Aduftion, Circulate in its Vessels. He says, That a Purge Evacuates, and by Irritating forces Choler out of the *Vasa Fellea*, and consequently out of the Mass of Blood. To this end he also reckons Digestive sharp tempering things (to Wit, to reduce the Blood) for they fuse and alter it, and temper its Heat. This Author also tells us, that sometimes the change of Soil and Air do Notably correct the bad Constitution of the Blood, better than any other Rich Medicines.

His

His Second Intention consists in Exactness of *Diet*, which in Fevers ought to be light and sparing; so that we commonly say, *Hunger is the best Remedy against a Fever*. And it is an Experienced thing that the Fit is very often delayed, Nay, quite driven away through Abstemiousness and Fasting. For which Reason our Author advises a slender Diet, forbids the use of Sulphureous or Spirituous things, that so the Heat of the Blood may be abated. Also he would have no Meat to be given when the Fit is coming; for that it is both gentler, and is easier, nay, sooner Terminated when the Patient is Fasting.

His Third Intention which is to hinder the Fit, is performed by those Remedies which stop the Fermentation of the Blood. And they are then chiefly to be used, and do most good, when other Medicines, and Venesection have been premised; of which more hereafter.

§. 18.

SPIRITUS makes the cause of Intermittent Fevers to be the Pancreatick Juice, which by Reason of Coagulated Phlegm, obstructing the lateral *Ductus's* of the *Pancreas* being Stagnated, becomes more Acid and Sharp; and making its way through this obstructing Phlegm, into the *Tenue Intestinum*, and there meeting with Choler and *Pituita Intestinalis*, raises a vitious Fermentation: Afterwards stealing along with them, some way or other, into the Right Ventricle of the Heart, and irritating it by their Acrimony and Flatulency, cause there not only a more frequent Pulse, but over and above, several

ways alter and disturb the Vital Effervescency, and the Sanguification on it self. The Cure, according to this Author, is to be Effected, First by cutting and dissolving the more or less glutinous and coagulated obstructing Phlegm; which Vitious Matter must be remov'd from that place, and carri'd at least as far as the *Tenue Intestinum*, or else wholly Excluded the Body. Secondly by Tempering and Correcting the Acidity and Copious Acrimony of the *Succus Pancreaticus*. Thirdly, by preventing or amending the Vitious Effervescency.

This Author is of Opinion, that the obstructing Phlegm may be best cut and dissolved by Medicines Impregnated with Aromatics and Volatil Salt, but with this Caution, that the whole Body be kept warm, either with Exercise, Fire, Baths, or Coverings, that the Virtue of the Medicine being every way dispersed may also reach the *Pancreas* it self, and its lateral *Ductus's*, which are the place affected, and the Fund of the Disease. And he commends them most especially for Melancholy and Phlegmatick Persons. To this end he advises about three Spoonfuls of the following Mixture to be taken about two Hours before the Fit, and the Body to be well cover'd.

Take of Water of Parsly two Ounces, Fennel one Ounce, *Tiberiacalis Simplex* an Ounce and an half, Volatil Salt of Amber a Scruple, Syrup of *Cardus Benedictus* an Ounce. Mix them.

But as often as the Nature or Preternatural Constitution of the Patient it is observed to be Bilious, he

uses Loosners, and inciding Acids.
V. G.

Take of Water of Fumitory three Ounces, *Sal Armoniac*, or *Tartar Vitriolated* one Drachm, *Antimonium Diaphoreticum* half a Drachm, Syrup of Fennel one Ounce. Mix them.

When a great many Phlegmatick, Gross and Bilious Humours abound all at once in the Patient, let him Drink a Mixture of the two Sub-contraries just now commended.

Take Water of *Carduus Benedictus*, Succory of each an Ounce and an half, *Theriacaalis Simplex*, Destill'd Vinegar of each Six Drachms, Crabs-eyes Pulveriz'd half a Drachm, Syrups of the Five Roots an Ounce. Mix them, and give a Glas of them.

If the obstructing Phlegm be not very Glutinous, he affirms it may be dispers'd by one Sweat, and thereby the Fever cured.

When he meets with a Body full of Choler, but not much Phlegm, He gives a Vomit, three or four Hours before the Fit come, by the Help of which, not only the Superfluous Choler, (according to our Author) but also the obstructing Phlegm is forced into the *Tenue Intestinum*, from thence into the Stomach, and so through the Gullet, and out at the Mouth. To which end he does often with good Success administer a Vomitory *Sapa* prepared of *Vitrum Antimonii*. Purgers by Stool have, he says, the same Effect; provided those things

be mixt with them, which also incide and carry of that Glutinous Phlegm. E. G.

Take of *Pil. Fatidæ Maj.* half a Scruple, Trochiscs of Alhandal, *Mercurius Dulcis* of each five Grains, Oyl of Amber two Drops. Mix them and make six Pills, which he would have taken four or five Hours before the Fit comes, and the Body gently moved.

The great Acidity and Acrimony of the *Succus Pancreaticus*, which contributes much towards the causing a Fever, must be Tempered, according to this Author, by Volatil Salts, and all Aromaticks, not omitting Opiates. In like manner the Vitious Effervescency of that *Succus Pancreaticus*, and Choler must be hinder'd and corrected, as was shown before.

§. 19.

LET us now give Ours own and the *Cattelian* Opinion. We do believe that Fevers may be Cured by the Excussion and Suppression of the *Salino-Sulphureous* and Exotick Particles, by correcting the Viscidity or Acidity of the Chyle, or by setting to rights the disorder'd Mixtion, and by composing the Spirits, and mitigating the pressing Symptoms.

As to the first Indication; that is, That those Feverish Particles may be excus'd; The Galenists cry up Blood-letting as the most Sovereign Remedy; because their Master *Galen* teaches, *lib. 2. Method. Med. Cap. 15.* that Bleeding is very wholesome in all Fevers arising from

from a putrifying Humour, not only in the Continual ones, but also in others. And though *Asclepiades*, *Chrysippus*, *Ondius*, *Erasistratus*, and *Aristogenes*, all famous Physicians, and *Helmont*, in our time, never breathed a Vein in any Distemper; yet others, as the Galenists, whom the French generally follow, are so free that way, that they seldom omit it in any Distemper.

We know by Experience that Bleeding in Fevers (because it does the more disturb the Blood) has often been very hurtful. Nay, when to prevent Diseases, it has been too frequently used, that it has made way for Fevers: Yet we are not ignorant that by letting Blood once before the Fit, the Fever has often at that very Instant been removed. Therefore it is our Opinion that these following Rules ought to be observed. Venesection signifies nothing where those Febrile Particles do stick closely to the Pipes, and are already mix'd with the Chyle, and whole Mass of Blood; for by this means the Blood is so exhausted, that the rest of the Mass is not sufficient to drive those Particles out of the Body. But it is proper when the Particles are only Lodg'd in the Mass of Blood, or the *Lympha*; for then they may easily be carry'd off with the Blood, which being once gone, those few that are left behind may with less Difficulty be overcome; and so the Distemper struck down at one Blow. Therefore in Putrid Fevers, a Vein is to be opened at the very first beginning, and before those Febrile Particles are fixed in the Pipes. Which *Hippocrates lib. I. Aph. 29.* also affirms. If any thing

be to be moved, do it in the beginning of the Disease, especially in those who abound with *Serum*. In Continual and Symptomack Fevers, Blood-letting, as occasion requires, is far more proper than in Intermittents. For it is certain by Experience, that being unseasonably used, it has for the most part chang'd a simple Tertian, into a double one. It is much better for those, who are strong, to let it alone, but always Circumstances of Age, Climate, sort of Fever, (we think it is best to omit Bleeding in Malignant Fevers speaking here only of Putrids and Intermittents) Country, and time of Year, ought to be considered; for it is so improper in Autumn, and in the Spring-time, when the Fit is present, that the Physician had as good Stab the Patient as Bleed him then. Sometimes the Blood, when it is let out, appears like Black, Livid, Green, &c. Gore. But these Accidents, according to *Helmont*, are not Signs of Corruption, but only of an Effervescency and fermentable Disorder.

The same is to be observed of Purging Medicines, which are either to be given in the Beginning, or else quite omitted; and all strong Purgers are hurtful. Besides, they do rather cure a Cacochymy than a Fever. For I have observ'd, with the excellent *Willis*, That a Tertian Ague is seldom or scarce ever Cur'd by Purgers that are given late, and that it often turns to a Quotidian. I have likewise, as *Willis* has done, known some that were in good Health, by taking an Emetick for Prevention sake, fall presently into a Fever, by reason of the *Serum* being exhausted; and I have seen others who by Emeticks

have been quite spent and Emaciated, and some others are observed to have thereby been Cur'd of a Fever, so that we must use them Cautiously; and a gentle Purge is better in the beginning and end, than one in the height of the Disease, tho it be strong. An Infusion of Senna with Rhubarb, Yellow Saunders, with Salt of Worm-wood, and some bitter Syrup may be given. Tamarinds, because they are somewhat Acid, are Extraordinary good in Fevers; especially if there be a Cholerick Temperature.

Take of *Extractum Catholicon* fifteen or twenty Grains; and if Phlegm abound, two or three Grains of Trochiscs of *Albandal* may be added. Tartar Vitriolated, and Cream of Tartar alone often do the Work.

If the Purge does not leave working, but more Stools are expected, the Patient must not have any other Medicine. For they do madly, who one and the same Day both Purge and Sweat.

But Purging is altogether improper in Fevers, except there be a Cachymy; for the Disturb'd Mixture of the Blood is not regulated thereby; whether it be Requisite or not, the Physician may in some sort guess by the loss of Appetite, Vomiting, &c. for that is usually a Sign that the Stomach is Clogg'd with ill Humours, which should first be Evacuated; for else, if a Sudorifick should be administred when the Stomach is thus Burthened, the Medicine could not be able to pass, and so a Vomiting would be provok'd; and for this Reason Antimoniate Vomitories given in the be-

ginning are the best; for often-times the Vitious Chyle is carry'd off by this only Remedy.

The main business of the Cure of a Fever lies in this; To remove the Obstruction of the Pipes, in which those Particles lie, which being made Acid by staying there so long, do in time cause a Fever; and also, to take away the Viscidity or Acidity of the Chyle, especially in Intermittents, and to assuage the Fury of the Spirits. It is also a common Rule with us, That cold things are never to be given in Fevers, because they obstruct; but we give Coolers, as *Lapis Prunellæ*, and Camphore; for these do not obstruct, but rather open Obstructions. Therefore let such Sudorificks be given as may remove Obstructions, Precipitate the Febrile Ferment, soak up the Acidity of the Chyle, and easily Extinguish it against the following Fit. For hereby those Acid Particles may not only be Corrected, but discharg'd through the Pores of the Skin: for the Pores and little Pipes of the Glandules being opened by Reason of the Relaxation of the Nervous Intercutaneous Fibres, and the Skin being thereby made more or less soft, rare, or vaporous, the Sweat may be transcolated as it were through a Streiner. But all the Sudorificks which are used in Fevers, are too many to be reckon'd up. Some commend fix'd Salts, others Volatil, some *Alcalis*, and others Essential Salts.

Sometimes they successfully give in Fevers Diureticks, or things that provoke Urine, especially in Intermittent Fevers, that is, if the constitution be such, as no great Quantity and Toughness of Humour lie in the way: yet however the more temperate

temperate and gentle ones are to be made choice of, such as can open the Passages, and Obstructions of the little Pipes, and expel the Febrile Particles; as, of the five opening Roots, *Asparagus*, *Saxifrage*, *Restharrow*, *Madder*, *Goosegrafs*, which are specifically available. The Herbs *Millefoil*, *Saxifrage*, *Sothernwood*, *Agrimony*, Seeds of *WildCarrots*, *Fennel*, Berries of *Juniper*, *Bay*, *Sal Prunellæ*, Spirit of Salt, *Vitriol*, *Sulphur*, *Tartar*, Oyl of *Juniper*, &c. And we must take notice that all Medicines in all Intermitting Fevers, must be taken about an Hour before the Fit; to the end that the Febrick Matter may be with-drawn from the approaching Exacerbation, and the Cause be intercepted. For they then alter the Blood, when those Acid Particles, forc'd out of the Pipes, or the bad Chyle, are already got to the Blood; for else, if they be taken before, they do not correct the Chyle, but only alter the good Blood, and never reach the cause of the Disease; so that Time and other Circumstances must carefully be observed in giving Febrifuges, or else we lose our Labour. But when there is a Crisis by Vomit, Siege, or Hamorrhage, Sudorificks must for that time be forborn, lest Nature be disturb'd in her Operation. Now all Sudorificks are Sharp and Acute, which are able not only to correct those Acid Feverish Particles, but force them out of those little Pipes by removing the obstructing Phlegm. Therefore commonly these things that follow are convenient; Salts of *Carduus Benedictus*, Centory the less, *Wormwood*, *Silver-weed*, (which I reckon a Specifick) *Fumitory*, *Scordium*, *Tama-*

risk, *Diascordium*, Rob of Elder, Bark of Peru, Trochiscs of Vipers, *Theriaca Andromachi*, *Mithridate*, Spirit of Harts-Horn. In Intermitting Fevers I esteem *Lapis Lazuli* as a great Secret, given from half a Drachm to a Drachm in Spirit of Wine before the Fit. Spirit of *Sal Armoniac*, and the Diaphoretick Powder of *Craanius*, prepared out of Antimony, is also often given as a Secret in Intermittents. Tincture of the Jesuits-Bark is an excellent Remedy, and is thus prepared.

Take of Jesuits Bark three Drachms, Salt of Tartar one Drachm, Spirit of Wine as much as is sufficient. Extract a Tincture according to Art.

Also Jesuits Bark may be given with Purgers and Sudorificks as occasion serves.

Take of Jesuits Bark one Drachm, Scammony six Grains. Mix them to be given in the end of the Fit. Or. Take of Salt of Wormwood, Jesuits Bark of each half a Scruple, *Diagridium* four Grains. Mix them, and make a Powder.

Gentian by many is esteemed of equal Virtue with Jesuits Bark, which in like manner may be often given in Wine, or in the Form of an Extract in Pills. Also a Decoction of Gentian, or of the Roots of *Silver-weed*, or of *Agrimony* may be of great Benefit. Likewise in my Neighbourhood the Martial Powder prepared of Bole, and mixed with some Drops of Oyl of Cloves being given before the Fit, has

has a great esteem. I am wont to prepare a Febrifuge Salt, and to give it with Spirit of fixt vitriol four Hours before the Fit, which is no Contemptible Medicament.

Take of *Mercurius Dulcis* fifteen Grains, *Crocus Metallorum* three Grains, *Antimonium Diaphoreticum* six Grains. Mix them.

In Continual and Intermittent Fevers, that *Panacea duplicata* is of great Repute, which being given to the quantity of a Drachm with Crabs-Eyes in a convenient Liquor, has seldom frustrated my Expectation.

As to Mineral Waters and Baths, they may be used according as the particular Constitution, and the present occasion require. But of these we shall speak, when we shall treat of Fevers in Special.

As to Amulets in Fevers, they may be used or omitted. I have notwithstanding seen many Effects by this which follows. But whether or no it might not be by accident, I was never able to Judge.

Take the Nine Species of Herbs with Jews Bread and common Salt, put them in a Bag, and let it Hang for Nine Days about the Neck, after which, throw it in a River. It hath given great help in Intermittents, and oftener in Quartans.

As to what concerns Leeches, Scarifications, Vesicatories, Infusion into the Blood, we will treat severally of each below.

Amongst other External Topicks we reckon the Febrifugal Plaster of *Strabelberger*. Rue Macerated in its own Vinegar, applyed to the Wrists of the Hands, and the *Saphæna* in the Foot (where the *Saphæna* turns aside) is thought to do much good: Also a Pickled Herring cloven in the middle and laid to the Soles of the Feet, and likewise a Tench. Spirit of Wine with a little Salt, is wont to be applyed to the Head and Feet. *Matthiolus's* Oyl of Scorpions, being Mixt with Treacle, and the Back-Bone chaf'd therewith before the cold Fit, is said to be most available.

C H A P. II.

Of an Ephemera: or One day Fever: and a Pure, Simple Continual.

§. I.

WHATEVER hitherto we have said in General, has been delivered with all possible Brevity: But now we shall in order relate, by what Way and Method every Fever in particular may be known and cured. I judge therefore we ought to begin with *Ephemera's*, partly because they for the most part go before other Fevers, partly because they are the simplest and easiest of Cure, and to speak improperly, are Cured by Nature her self. It is so called by the Greeks from the Preposition ἐπὶ and ἡμέρα, a Day, as if we should say *lasting one Day*. Wherefore the Latins call it *Diaria* from its Duration. Some think it is so called from an Animal, mentioned by Aristotle l. 5. de *natura animalium*, which is Born and Dead in the space of one day, and is called an *Ephemeron*. This Fever is either short, or long, or very long. The short is called an *Ephemera*, the long a *Simple Continual*, the very long a *Fermentative* or *Putrid Continual*. But since, in our opinion, these Fevers differ only in Degrees, according as the Blood is more or less disturbed, and for that reason the Cure differs only in the degree of Medicines more or less Efficacious, we therefore will handle

these Diseases in the same Chap. An *Ephemera* is described to be a *very little perturbation of the Blood, usually arising from the incongruity of the Air, which hinders insensible Transpiration*. But in a Continual Fever the perturbation of the mixture of the Blood is more violent. An *Ephemera* is divided into one Simple, which lasts only for one Day, and one Extense, which lasts for more. The most usual Difference of a Continual is in regard of the Increase and Decrease: when the Heat keeps the same Tenor till the *Crisis*, it is called *Hemotonos* or *equal*: When it always increases, it is called *Epacmastica* or *Increasing*: When it always Decreases, it is called *Paracmastica* or *Decreasing*. For Men commonly Measure the Increase or Decrease of the Fever, by the Increase or Diminution of the Heat, but in my opinion it might be better measured by the more or less troubled Mixtion of the Blood.

§. 2. Subject.

THE Subject of these Fevers is by the common Consent of Physicians reckoned to be the Spirits; but it is rather the Mass of Blood, in which a disturbance is raised, and the Vessels of the Parts, in which obstructions are made.

§. 3. Dia-

§. 3. *Diagnosticke*.

THE Diagnosticke Signs of these Fevers do follow. They begin with a small Chilness but in a Continual with a great one, then a Febrile Heat follows the Chilness, and sometimes begins the Fever, and holds from the beginning to the end, without any Paroxysms: Only, as was said before, sometimes it keeps an equal pace, sometimes it mends, and sometimes it slackens it, till by degrees it ceases. The more remiss and mild the Heat is, the shorter is the Fever, as in the *Ephmera*, which they call gentle and halituous, where the Skin feels soft and smooth. The Heat is stronger and more violent, if it last long in a Sanguineous Continual, so called from its cause; sometimes with the accession of a little Acrimony in a Continual, which they call Bilious. The rest of the urgent Signs are common and familiar to other Fevers, a Throbbing pain in the Head, Thirst more or less, bitterness of the Mouth in a Bilious one, Reaching, Vomiting, Loss of Appetite, Inconcoction, Looseness, Roughness and Hardness of the Mouth and Tongue, which are attributed usually to Humours first gathered in the Stomach, and then Putrefying there, restlessness and weariness of Limbs, waking or deep Sleep, thick Breathing and Heat of the *Præcordia*, a quick and frequent Pulse, and sometimes a strong and great one, yet not an equal or disordered, Red Urine, a Red Swollen Face, Turgid Veins, soft Skin, but in a Bilious one dry. The Urine, if these Fevers prove short, does not differ much from the Natural, but if long,

it is Red and Tinged; The Sweat, which often bursts out sooner than it ought, does neither smell strong, nor is troublesome; but in Putrid ones a Stinck is as easily perceived in the Sweat as in the Excrements of the Belly. But a Simple Continual is often Exasperated about the Evening and after Eating, the reason whereof is this, because insensible Transpiration is checked by the Pores of the Skin being closed towards Evening. This Fever lasts not above four or five Days. There is a Continual, called *Putrid*, or *Fermentative*, wherein sometimes Spots appear, which denote a great Perturbation, and a Volatil Salt to be in the Mass of Blood; the Pulse also in this Fever is very quick and unequal, and that especially because of the great Fermentation of ill Figured and disordered Particles; hence comes an Irritation of the Heart, and by consequence an unequal Pulse, which depends upon a strong Influx of the Animal Spirits into the Heart, and Fibres of the Arteries. Sometimes there is a looseness, and puffing up of the *Hypochondria*, sometimes *Deliria*, immoderate Watching, Anxiety about the *Præcordia*, and Swooning with a Cold Sweat. But if the matter tend to the Nervous kind, then there arises Trembling, Shaking Cold, Pains, Convulsive motions, Spasms of the *Viscera*, Stupidity, Phrenzy, &c.

§. 4. *Cause*.

THE Ancients say, That any Heat, either External or Internal, is able to raise these Fevers, but the better the temper of the Body is, upon which they happen, the shorter

shorter the *Ephemeræ's* are. For a well tempered Body, if it be inflamed by Adventitious Causes, since the Heat cannot continue long in it, must needs shorten a Fever, *Ephemeræ's* and short Fevers, according to them, are bred, which cease in one day, where the Heat is gentle, and breeds no disturbance in the Body, and when it is not in the least impure: This Fever usually begins without a Chills, and expires without a *Crisis*, by insensible Transpiration. They say, that Simple Continual Fevers last the longer in a Choleric or Sanguine Complexion, because the Heat is increased by these Humors, and they prove it by this, for that young, Plethorick and hot natured People, & such as have had the *Hæmorrhoids*, or an *Hæmorrhage*, or the *Menses* stop upon them, are most subject to this Disease. But if this Diary Fever find a foul Body, and the impure Blood be apt to Putrefy, it continues no longer a Simple and Pure Fever, but when the Blood takes Putrefaction, these Simple Fevers are by a sad *Metamorphosis* changed into long Putrid Continuals.

The Galenists distinguish Putrid Fevers into Continual and Intermittent: They say, that Continuals are bred, when the Putrid Vapor, or Preternatural Heat, which arises from Putrid Humors, afflicts the Heart continually, and produces a constant Heat therein, whence, as they say, the Heat of the Fever is diffused all over the Body. Or they are Intermittent, when the same Vapors are carried to the Heart at certain intervals of time. They again divide the Continual into Essential and Primary ones, or Sym-

ptomack. They are called *Essential*, when the Putrefaction is kindled in the common Veins, and not in the private Parts; but *Symptomack*, when Putrefaction or Suppuration is made in some particular part enflamed, from whence Vapors may be Communicated to the Heart by the common Vessels, such as appear in a Pleurisie, and in other Inflammations. Some are called *Continual Tertians*, which are worse every third Day, some *Quotidians*, which are worse every day; and others *Quartans*, which have a Fit every fourth day, and they make many other unnecessary Divisions.

They affirm, that Putrid Continuals are bred of Putrefaction of Humors, which are contained in the greater Veins and Arteries, and that, according to the Various Nature of the Putrefying humors, there are various sorts of them. From which Putrefaction, they say, Vapors ascend to the Heart and Brain, and hence commonly they derive all the Symptoms that Occur in this Fever.

The Galenists place the Cause of a Putrid Continual about the Heart, and in the *vena cava*, and the Seat of a Diary in the Vital Spirit and Heart it self.

§. 5.

According to Paracelsus the Cause of these Fevers is a Fetid Sulphur, with a dissolved Mercury, and an impure Salt gathered usually in the Region of the Liver; and he asserts, That these Fevers arise from Nitro-Sulphureous Impurities.

§. 6.

HELMONT, making the Seat of a Diary Fever to be in the Cavity of the Stomach, holds, That it arises for the most part from Corrupt Meat, and he proves it by this, That this Fever ceases only by Vomiting. He attributes the cause of a putrid *Synochus* not to Galenical putrefying Humors, but to a Corrupt Vagrant Acidity, which irritates the *Archæus*. This *Archæus* is provoked by some occasional cause, which is like a Thorn, because of the *Blas*, which it has from the Soul; and this *Blas* sometimes is in such a Fume, that it makes the *Archæus* Angry and Fiery. The occasional cause often arises from hence, That the Chyle is made more acid than usual, through some fault in the Stomach, and being carried into the Veins of the Mesentery, by the fault of the Duumvirate, it causes these Fevers. The Galenists also according to our Author do admit in bringing the Example of Dung, for illustrating Putrid Fevers, which, if Putrid, grows Hot: But, he says, the more it Putrefies, the less Hot it is, nor is it Hot at all, if spread abroad. Therefore it only grows Hot, when it is gathered Wet on an heap; so Hay likewise is set on Fire by the Spirits of its own Salts Compressed. Heat, in our Author's opinion, is not a Fever, but it is a certain *Blas* arising by propriety from the *Archæus*, to which Cold as well as Heat is Natural. Therefore the *Archæus* is the only Efficient of Heat and Cold, which are passions of Life, that the *Archæus* moves by its proper *Blas*. Whence, though a Carcase putrefy,

yet there is neither Heat nor Cold in it.

§. 7.

THE cause of this Fever, according to *Willis*, is a subtil and Spirituous Portion of the Blood, too much Exagitated and Heated, which oftentimes, like Wine, Boils and Ferments upon any small occasion. But when upon a long Agitation and Ebullition of Spirituous Blood, the Grosser Sulphureous Particles do at length take Fire, then they last above four and twenty Hours, and are called *Ephemer* of several Days, or Simple Continuals, and not Putrid. And the cause of a Putrid Continual is the Oily or Sulphureous part of the Blood, which being too much heated is above measure Turgescent, and takes Flame like Wine, which is too high exalted by its Sulphur, or like moist Hay, it grows Hot of it self for want of Ventilation, whereupon immediately the whole Sea of Blood is rarefied, and as it were kindled in the Lungs and Heart, (wherein Accension is made through the Fault of the Air) hence it is carried by a most Rapid motion through the Vessels, and by its Deflagration disperses many *Effluvia* of Heat. Hereupon the whole Mass of Blood (like Water over the Fire) boiling up continually Distends the Vessels, Vellicates the Brain and Nervous parts, raises Convulsions and Pains in them, by its Effervescence usually dissipates the Vital Spirits, destroys the Ferments of the *Viscera*, hinders the Offices of Concoction and Distribution, often depraves the Nutritious Juice designed for the Nervous kind, so that

that hence disorders of the Animal Spirits especially do follow, yea, the whole Oeconomy of Nature in a manner is perverted.

§. 8.

Spiritus reckons the six Non-Natural causes, used amiss, for the causes of all Diary Fevers. Wherefore he thinks it may arise only from the Heat of the Air, or Sun, or Fire, or a Bath: for a Diary is very easily caused by Cold coming upon the Heat of the Body, so it may by Generous and very Spirituous Wine, especially if it be Aromatick, from too much motion and tiring of the Body. This *Ephemera* is usually caused by the Passions of the Mind, Anger, Grief, &c. and so is a Simple Continual, Pure, not Putrid. He has observed this Disease to be caused by too much watching. And, beside a very frequent Pulse, several observable Symptoms appear in Diary Fevers for the Notification of causes single or conjunct.

He says, the cause of Simple Continuals is sometimes Bile, sometimes *Lympha*, sometimes both indisposed, & producing a sort of Effervescence in the right Ventricle of the Heart. Wherefore he asserts that there is always a preternatural Pulse; and according to the diversity of the cause he distinguishes continual Fevers into Bilious and Lymphatick: Under the Name of *Lympha* he also comprehends the Pancreatick Juice, the *Saliva*, and Liquor arising from the intestinal Triumvirate.

The cause of Putrid Continuals, which trouble the Patient with a great and constant Heat, he attributes to the Acrimony and too

great Inflammability of the Bile, whereby, he says, that a Vitious Effervescence is perpetually raised, not only in the Right Ventricle of the Heart, but also in the *Intestinum tenue*; especially by the Pancreatick Juice's Flowing thither by little and little, being made too sharp by its Stagnation, and so causing a Paroxysm. And therefore he thinks there is an Obstruction in one or more passages of the *Pancreas*, and reckons the Cure must be directed thither.

§. 9.

VV^C and the *Cartesians* place the cause of a Diary Fever in a small Perturbation of the mixture of the Blood. Wherefore the external Air, by reason of its Particles, is able to disturb the mixture of the blood; which Mixture, as it is variously disturbed, causes various sorts of Fevers. Yet the hindrance of insensible Transpiration alone does not produce a Fever (for then all Men in Winter, when insensible Transpiration is hindered, should have a Fever) but only such a hindrance as disturbs the Blood. This Disease is usually produced by hindrance of insensible Transpiration, and by obstruction of the Pores. In the Fits we feel Cold, by reason of the little motion of the Blood; but then again, when this thick Humour is more actuated by the Animal Spirit's flowing into the Heart, then it moves faster, and therefore we feel Heat. The Patient thinks he is Cold, which he is not, the reason is, because Cold is usually the cause of shaking, therefore the Soul judges, when the Body is troubled with a Shaking, that it is Cold, which

which yet does not follow: for the Saline or Acid Acrimony, Vellicating the *Panniculus Carnosus*, causes a Shaking; yea, in Child-bed-Women the coming of the Milk may cause this Fever.

But in a Putrid Continual the Mixtion of the Blood is more disturbed; yea, so much, that the Fermentation of it is not able to conquer and restore the bad Mixtion; because the Peccant Humor is pertinacious and continually glides out of its Receptacle into the Blood. This Disease has often its rise, from Cold Drink, and too much Exercise, when the Body is very Hot, and all the Pores are altered on a sudden, so that insensible Transpiration is hindered. Violent Exercise, as is said, and Drinking much Wine may deservedly be reckoned among the External Causes, inasmuch as by moving the Blood much, and recovering the Humor out of its Receptacle, they wash it out of the *Viscera*, and carry it into the Blood; which Humor then has the Pores of its Particles so changed by its Stagnation, That the foreign matter of the first Element passes through, and disturbs the mixture of the Blood. Yet this Cause of it self can never produce a Fever; for thousands of People Exercise and Drink too much, who fall into no Fever. But we must observe this, that such Men as fall into this Fever upon such a cause, must needs have many peccant Humors in their Vessels: Wherefore it will be proper for such people to Purge, that these Receptacles may be washed out. Great restlessness attends such as are troubled with this Disease, which arises from hence, That much Volatil Salt is found in their Mass

of Blood, which by Vellicating the Nerves opens them, and if the Patients out of their Restlessness, tumble from one side of the Bed to the other, and expose themselves to the Cold Air, insensible Transpiration is hindered, and so the Volatil Salt, which would otherwise pass by insensible Transpiration, carries in the Body, and by further Vellicating and Pricking the Nerves, continually encreases their disquiet, and sometimes causes Death.

Scholastick Authors do not well explain, how Putrid Fevers differ from the not Putrid, they say, indeed, that in Putrid Fevers there is an unequal Pulse; but this is only, because the drops of Blood, that enter the Heart, are not all equally ill mixt, which makes nothing for the real difference of Fevers. According to us, Fevers differ only as to degrees, according as the Blood is more or less disturbed; and therefore the Cure, as I said before, differs only in regard of more or less Efficacious Medicines. Then, in *Sylvius* his opinion, they differ in regard of divers Symptoms, the Cure of which must be undertaken severally, as necessity requires.

§. 10. Prognostick.

AN *Ephemera* is not naturally dangerous, but easie to be cured, and often ceases of it self in a Sweat, without the Aid of a Physician. But because this easily turns to a Putrid Continual, or sometimes to a Hectick, through some Error in Diet or Medicines, therefore it must not be neglected. The Prognostick of a Simple Continual is, that it often Degenerates into a Putrid and an Hectick, because

cause the Blood is much disturbed; otherwise it usually ends in a Sweat or Hæmorrhage, within four or five days.

But a Putrid Fever is dangerous, for it is a great disease, seeing the Treasure of Life, the Blood, is affected, and much disturbed; whence it easily turns to a Malignant Fever. That is safe, which decreases, that is worse, which increases. It goes off in Sweat and Urine, when the Pores in these parts are open, sometimes it ends in an Hæmorrhage, sometimes in a looseness.

§. II. Dietetick Cure.

Concerning the Diet, which is handled very Copiously by Physicians in an *Ephéméra*, I shall be brief; because this Fever lasts not long. The Air must here be considered, not only on account of its Coldness, but, as we said, on account of its Particles, which may very much disturb the mixture of the Blood. For by the excessive coldness of the Air insensible Transpiration is hindered, which also disturbs the mixture of the Blood; thereby also a tough and gross Humor is bred, which contributes something: Let the Patient also have a care of too hot an Air, nor let him expose himself to the Sun, Baths, &c. because all these things may cause a Fever.

As to the Food, it must be spare; and here abstinence is often the best remedy, according to *Celsus*, who says, *Many great diseases are cured by Abstinence and Rest.*

Let Motion and Rest, Sleep and Watching, and the Passions of the Mind be moderate.

But in a Simple & Putrid Continual, let the Air be temperate, serene and pure; for one too hot or too cold does harm. Let the Meat be of good Juice and easie of digestion. It must be moderately taken, out of the Paroxysm: for impure Bodies must not be fed. In the very Paroxysm; according to *Willis* his opinion, it must be totally subtracted.

He also advises the Drink to be moderate, that is, a Decoction of Harts-Horn, with Raisins and Scorzonera Root, well wrought small Beer, into which altering Tinctures may be dropt, to Wit, of Roses, Violets, Vitriol of Mars; Vitriol, Salt. Wine must wholly be abstained from, or it must be corrected with Acids, and Drunk rather for Gratification, than to Satiety. Much drinking of wine is very hurtful, upon which Patients are very apt to fall into an Epilepsy; as I have observed in my practice: for any Spirituous drink moves the Blood and Animal Spirits very much; and therefore too much use of Cordial Spirits is hurtful, because they exagitate the Humors.

Great and violent Exercise also does hurt: in like manner too long Watching; but especially Passions of the mind; Anger, Grief, Care, &c. are naught.

§. 12. Pharmaceutick Cure.

FOR the Cure of an *Ephéméra* the Ancients were wont to use Bathing in warm Water, of which they also made great use in a State of Health. Then they kept a Cooling and Moistning Diet of Barly Cream, cooling Broths, Juleps of Fair Water and cooling Syrups, &c.

C c c

But

But according to the Diversity of Causes they a little vary the Cure. If therefore an *Ephemera* came from the heat of the Sun, they used a cooling Diet, and transported the Patient into a cooler place, applying an *Oxyrrhadinum* to the Forehead and Temples. If the Fever came of Cold, especially when the Patient, hot with Exercise, had exposed himself to a cold Air, then they gave a Sweat with their usual Sudorifics. If from labour, they ordered Rest, and a fuller Diet, but easie of Concoction.

If Anger caused it, they ordered Cheerfulness; if Watching, Sleep; if Fasting, a good Diet; if Surfeiting, abstinence from Meat; if Obstructions and Cacochymy, Purgatives; if a Plethory, Bleeding.

They say, the cure of a Simple Continual consists in Evacuation of Blood, cooling, and opening of Obstructions: Therefore *Galen* 9. lib. Method. c. 4. performs it with two principal Remedies, that is, by letting blood till one faint, and by drinking Cold Water. However the wiser sort of Galenists dare scarce practise such Bleeding; but think it is sufficient, if such a quantity of Blood be taken away at several times, as is necessary for the cure of the Disease. As to the plentiful drinking of Water, *Galen's* Disciples do not admit it, but instead thereof substitute divers cooling Juleps of a Decoction of Barley, Endive, Sorel, Cichory, &c. also Emulsions and destilled Waters. Externally they apply cooling Epithems to the Liver, and Liniments of the same quality both to the Liver and Loins of *Unguentum rosaceum, refrigerans Galeni, Santalinum, &c.*

In a Putrid Continual, which has more violent Symptoms, they order Bleeding and Purging: For their whole Cure consists in these three things, Bleeding, Purging and Cooling. Therefore they use divers Juleps, and several External Coolers. But I am weary of setting down, what all practical Books are full of.

§. 13.

THE Paracelsists conclude, That these Fevers arise from nitro-sulphureous impurities: Therefore they commend all dissolving Medicines, especial purging with Antimony: for according to them every Fever is carried off by such Purging. For correcting the peccant Matter, they commend rectified Spirits of Salt, especially in Putrid Fevers, *Elixir Proprietatis*, and several other things, which you will meet with hereafter.

§. 14.

HELMONT, who places the Seat of an *Ephemera* in the Cavity of the Stomach, and affirms, That it often arises from corrupt Meat, cures it by a Vomit. And in a Putrid Fever he commends his Appropriate and Specifick Remedies, especially his *Mercurius Diaphoreticus*, wherewith, he says, he Cures Fevers at once taking; which Remedy nevertheless he conceals. He also highly extols *Arcanum Corallinum*, but when we are destitute of it, he recommends to us particular Volatil Aromatick Remedies, which given in these Fevers never fail the Physician.

He asserts, That Vomitives and Purgers

Purgers often do good, while upon the Stimulation of one thing, they throw off another, that is ready and near it.

§. 25.

VV ^{ill} his Curative intentions in a Diary Fever, are to check the heat of the Blood, and to procure free Transpiration. For which, he says, Venesection, a very low Diet, or rather Abstinence, cooling Drinks, and Clysters are good: but, he says, above all things, Sleep and Rest do most good, which being wanting, he reckons they ought to be timely procured by Opiates and Anodynes.

He, as well as we acknowledge, That in a Putrid Fever the mixtion of the Blood is disturbed by an over exalted Sulphur. And he inculcates, That in this Fever four times should be observed; that is, the Beginning, Encrease, State and Declension, which in some are over sooner, in others later. And if this Fever be violent in the Beginning, and suddenly fire the whole Mass of Blood; if it hold on constantly and equally with violence of Symptoms, without Remission, for the most part within four days the Blood will so blaze, that the adust matter, which makes the *Crisis*, will rise to a full Turgescence: But if the Beginning be slow, and the Accension often interrupted, it will come to the height about the seventh day: And if the Disease begin yet more remissly, the State of it is usually protracted to the Eleventh or fourteenth day. He also concludes, That the Critical Motions in this Fever happen on the

fourth, seventh, eleventh or fourteenth day, not by direction of the Planets, but through necessity of Nature.

He has four general Intentions about the Cure of Putrid Fevers, on which the stress of the whole Affair lies. 1. To free the Blood from burning, and quite suppress the Flame, or Fire, kindled in its Sulphureous part, which often happens about the first Beginning of this Disease. 2. To contrive, since the burning of the Blood cannot be quite quenched, that it may perform its Deflagration more mildly at least, and with less damage. 3. When the Deflagration is over, to free the Liquor of the Blood from the Recrements of the burnt, adust Matter, and afterwards to reduce it to the Natural Form and Vigor. 4. To obviate all urgent Symptoms.

He Judges therefore, that in the very Beginning Blood should be let: for by bleeding the Blood is Ventilated, and the hot Particles being too much Glomerated, and very nigh Burning, are separated one from another, just as Hay, that is apt to take Fire, if it be exposed to the open Air, its Burning is prevented.

He will also have a thin Diet kept, in which nothing Sulphureous or Spirituous must be used. The Bowels also, especially the firstways, must be discharged of their load of Excrements; for which end he commends Clysters, and sometimes also Vomits and Purges, but then they must be seasonably administered. In the Increase of the Fever, if the Blood ferment too much with a strong and violent Pulse, distending the Vessels very much; and if

Watching, Phrenzy or Head-ach be very violent, he inculcates a repetition of Bleeding, and at that time he thinks Sudorificks should be omitted; and that Opiates and Anodynes should rather be given, as things that fix the Blood and Spirits, and preserve its Texture. He also highly commends Juleps, Decoctions that cool the hot *Viscera*, temper the Blood, and refresh the Spirits, the acid Liquors of Vegetables or Minerals, and also purified Nitre, inasmuch as these check the heat of the Blood, and quench thirst.

But he is against giving hot Spirituous Waters, and Cordial and Bezoardick Powders (if the disease be without Malignity.) Yet if Nature endeavour a *Crisis* by Sweat, and Signs of Concoction appear in the Urine, then he allows of Sweating or gentle Purging. If all things grow worse, the Spirits must be recruited, only with Cordials, both Internal and External, of which in another place.

§. 16.

Sprung judges very well, That the Cure of a Diary Fever is various, according to the Variety of its causes. When therefore this Disease is produced by Heat of the Air, a temperate Air must be sought, or at least it must be tempered, by Sprinkling Cold Water or Vinegar on the Floor, or by strowing the Room with cooling Plants; he prescribes also the following Julep for the Patient's Tard.

Take of Water of *Carduus Benedictus* six Ounces, Sorel two Ounces, Syrrup of red Poppy one Drachm, Spirit of Nitre six Grains. Mix them.

But when the Fever arises from Cold, coming upon excessive Heat of the Body, he, to good purpose, mixes Volatil Salt of Harts-horn, or Sal Ammoniack one Scruple, and gives it several times.

When an *Ephmera* is caused by strong Drink, he thinks the Cure should be performed by some Acid Drink, as the Julep now prescribed, or the Tincture of Roses following; which he commends in all Febrile heat.

Take of Water of Barly thirty Ounces, red-Rose Flowers dried one Ounce, Oleum Sulphuris per campanam, what is sufficient for a grateful Acidity. Infuse them in a Glass Vessel stoppt, and in a warm place, to the Extraction of a Red Tincture. Add to the Colature of Syrup of Jujubs three Ounces. Mix them.

If a Diary Fever come of too much Labour or Motion of the Body, the Animal Spirits must be Recruited with some Spirituous Drink: to this end he commends the following mixture, to be taken at some distance of time.

Take of Water of Linden-tree-Flowers, Betony, Fenil each two Ounces, rectified Spirit of Wine, or *Aqua vite Matthioli* one Ounce and an half, Sweet-Spirit

Spirit of Salt one Scruple, *Fulapium Rosatum* one Ounce. Mix them.

When an *Ephamera* comes of violent Anger, he prescribes the following Mixture, which corrects the Bile, that is both disturbed and too sharp.

Take of Water of Plantain, Lettuce, Sorel each once Ounce, Cinnamon half an Ounce, sweet Spirit of Salt half a Scruple, Syrup of *Diacodium* one drachm. Mix them.

When a Diary Fever comes from Grief, he commends a Mixture, which uses to mend the austere juice bred in all great Grief, & which also may restore the Effervescence of the Blood in the Heart, that is then Spoyled and Febrile.

Take of Water of Penny royal, Fenil each two Drachms, *Spiritus Carminativus* half a Drachm, *Laudanum Opiatum* two Grains, of Sal Ammoniack Volatil one Scruple, Syrup of Fenil one Drachm. Mix them.

When this Fever comes from too much Watching, then Sleep must be gently procured, by giving an Emulsion, or a Grain or two of *Laudanum Opiatum*. Where there is a *Plethora*, you may Bleed whenever you please, not till the Patient faint, but at several times; and when Bile abounds in the Body, he will have it diminished by some gentle Cholagogue, or altered by divers Juleps, here and there described. Also when the Mouth is bitter, such things are good, as gent-

ly carry off Bile by Stool.

As to the Cure of a Continual, since there are several differences of Continual Fevers, both as to Causes and grievous Symptoms that attend them, it is requisite that we recount some together with the Method of Cure, according to the judgment of this worthy Author. Therefore he Cures a Bilious Continual by correcting the Saline Acrimony with temperate Acids, such as Sweet Spirit of Salt, &c. 2. By amending the inflammable Oleosity of the Bile by austere Acids, Sempervive, Plantain, &c. 3. By diminishing the Bile with Cholagogues, but gentle ones and Subacid, such as Cream of Tartar, Salt of Tartar, *Tartarum Vitriolatum*; Receipts of which Remedies you may meet with in authors, that would tire me to recount, and so you may find the Cure of all the Symptoms sufficiently described by the foresaid Author.

As for a Lymphatick Fever, and other sorts, which he refers to Continual ones, we shall treat of them in another Chapter hereafter, and now we will turn our selves to our own.

§. 17.

IN Our judgment the Cure of an *Ephamera*, which is truly such, is needless; for it admits not of Cure, because it uses to cease of it self by Sweat, and a Physician is rarely called to the Cure of this, unless among Rich Men. But since it may easily Degenerate into another Fever, especially a Putrid Continual, we ought to Cure it. And in the mean time, lest this Fever should return, one may Purge.

that the fault in the Mass of Blood may be removed, especially if Bile abound; for which end the gentle Cholagogue following, or some such like, will be proper.

Take of *Extractum Cholagogum* half a Scruple. Give it. If Phlegm offend, it may be sharpened with two Grains of Trochiscs of Alhandal, made into Pills.

But all Purges and Vomits are suspected by me, because they have not respect to the Fever, if there be no Cacochymy; for the disturbed Mixture of the Blood is not restored by Purgatives, but by Diaphoreticks. Therefore I think the Cure should be begun with giving a Clyster; and in a Simple Continual a little Blood must be taken away, and afterward gentle Antifebriles, that dispose the Body to a Sweat without any great disturbance of the Blood, must be given at times.

The good Women take only hot Wine with Mace, Nutmeg and Sugar. We add half a Drachm or a Drachm of Treacle, and we take Generous Wine; because that which is not so, will not cause Sweat. For the poorer sort, they may take half a Drachm of Crabs-eyes or a Scruple of Powder of Coral. Bezoar Stone, because it is hard to come by, ought not to be much prescribed. I should prefer the use of Harts-horn far before it. And here a Decoction of Barly with juice of Citron or Limon, or a Decoction of Harts-horn with Scorzonera will be proper. Always some Drops of Spirit of Nitre, or of *Tinctura Confortativa cardamomizata*, or Tincture of the greater Daizy, shar-

pened with Spirit of Vitriol of Mars, or some other cooler, should be put in the Drink of Febricitants: Febrifuge Waters also answer these ends, and Emulsions of the cold Seeds. Juleps of a decoction of Barly, made with shavings of Harts-horn and Tamarinds. Absorbents also will be good, such as Testaceous Powders, *Antimonium Diaphoreticum*, divers external Epithems for the Liver, Heart, and Wrists. As to Blood-letting here also we must act Cautiously, it may be let where there is a *Plethora*, and no Suspicion of Malignity.

But in a Putrid Continual, where an Humor endued with a Fermentative Quality is Peccant, and raises a Periodical Continual, in the beginning, to wit, on the first or second Day, if you see any thing to be moved, Move, Purge and Bleed. Among Purgers the best are Laxative Infusions; also Emeticks given prudently do often avert the grievous Symptoms. When you have a mind to Sweat, the Belly must first be loosened, lest some of the subtiler Parts of the Excrements be separated and carried into the Habit of the Body and all over, by the Diaphoretick Medicine, whereby other Mischiefs might be produced. In this case Clysters for a young Body are very proper, especially in the beginning of the Disease; but in Old Men they are not so safe; nor must Clysters be given when the *Crisis* is near, nor in the Declension of the Disease. And whether one should Purge or no, the Physician may guess in some measure by the Appetite, which if it be decayed, it is usually a Sign that the Stomach is laden with bad Humours, which ought first to be gently

ly Purged off. Among Alterers, Acid Mineral Spirits are reckoned; among Diaphoreticks the Mixture of three things, Spirit of Harts-horn, Spirit of Soot, and other things to be found in Practitioners, are safe. In a Fever such things must never be given as obstruct, but in stead thereof we may use *Lapis Prunellæ*, Spirit of Nitre, and Camphore, because these obstruct not: So also plentiful drinking in Fevers does no hurt of it self, yea, it does good, if it do not obstruct, which it will not, if it be set a very little on the Fire, yet so as not to be hot, but only that it may not be actually Cold; then a little Spirit of Nitre may be added, and so it will do no harm. The Stomach is often extended by cold Drink, inasmuch as this obstructs its Pores, & so Wind is kept in it, which distends it. You may in this Fever use Camphore as an *Arcanum*, especially if Watching, Pain, and other Inconveniences accompany it, all which said things Camphore Cures, if three or four Grains of it be taken, because by its Subtily it incrassates without obstruction. You must not presently run to Cordials, for if you do, you will greatly endanger the Febricitant. You must reckon the same of Narcoticks, they may be given about the Eleventh Day, that is, in the Declension of the Fever: for Continual Fevers must not be dealt violently withal, nor can they be Cured by one Remedy, (which yet *Helmont* brags of) but leisurely. Wherefore we give Sudorificks at times, as *Sylvius* does, either in form of a Mixture, or in Powder.

Take of Water of Fenil, Baum, Roses once Ounce, Tincture of Saffron one Drachm, *Bezoardicum Minerale* half a Scruple or a Scruple, Spirit of Salt twelve Drops, Syrup of *Carduus Benedictus* six Drachms. Mix them. In decay of Strength a Drachm of *Confectio Hyacinthi* may be added.

In the *Interim*, at some distance of time, about twenty Grains of *Lapis Prunellæ* with six Grains of *Bezoardicum Minerale* may be given. And if the Patient Drink much, add to every Draught Ten or Twelve drops of Spirit of Nitre, and so the Thirst will cease. All Nitrous things are proper here, inasmuch as they Precipitate and cool, adding Sudorificks and Camphore, for so without doubt the Fever will cease. The following Powder has been experienced and seldom fails.

Take of *Bezoardicum Minerale*, *China* each half a Scruple Camphore three Grains. Let, the Patient Compose himself quietly to Rest, and expect only a small Sweat.

Oftentimes all the Blood is disturbed in this Fever, and so turns to Malignity, which alters the ordinary Method of Cure, especially as to Purging and Bleeding, which must then be let alone: In this case also in the beginning of the Fever the Pulse must be felt exactly; for if it be frequent, I dare not give a Cathartick; and if it be weak and low, I suspect Diaphoreticks, especially strong ones; wherefore in

this case we must succour Nature by more moderate things, in the manner following.

Take of *Aqua Confortativa Augustana* two Ounces, *Cornu Cervi citrata* one Ounce, Cinnamon Water half an Ounce, *Saccharum perlatum*, as much as will make it grateful. Mix them.

For comforting we commend Electuary of Pulp of Citron, with Conserve of Wood-forel, Currans, &c. adding some *Species Diamargariton, de Hyacintho* and Ivory not Burnt. Whey also of Goats

Milk may be boyled with Citron-Peel, and *Clyffus Antimonii*, tinged with Tincture of Violets, may be dropt into it.

Timely care must be taken of the Symptoms that attend these Fevers, such as looseness, Watching, Phrenzy, Thirst, and other Accidents, troublesome both to the Spirits and Blood.

If, after the Fever is cured, the strength nevertheless remain low, and the Weakness be extreme, you may lay a lively lusty Youth in Bed by the Patient, according to Dr. Sydenham, my very good Friend, his Mind.

CHAP.

C H A P. III.

Of other Putrid Continual Fevers, of a Causus or Burning Fever, of a Continual Quotidian, a Continual Tertian, and a Continual Quartan.

§. I.

IN the preceding Chapter we Treated of those Fevers that are commonly called *Putrid*, for that they Putrefy, and Wax hot like moist Hay. We now subnect their *Species*, and first of all a *Causus* καύσων, or a burning Fever, is a *Continual Fever*, arising from a great *Perturbation of the Blood*, constantly afflicting the Patient with a most violent Heat and unquenchable Thirst. This Fever only differs in Degree from a *Putrid Synochus*. But if the Exacerbations of Heat be observed to return after some Intervals of Hours or Days, the Fever assumes other Names, and according to the Variety of the Humor and Accession, is either called a *Quotidian*, which comes but seldom, or a *Continual Tertian*, which is more frequent, or a *Continual Quartan*, which is the most rare of all. They first of all divide a *Causus* into *Malign* and *Benign*. The difference may also be fetcht from the Causes, why one is more *Mild*, another more *Vehement*, also why one is *Simple* another *Compound*; for one arises from disproportionate Particles disturbing the Blood, another has

many Particles intimately mixt together, from whence also other Symptoms are induced. They are distinguished into *Remitting* and *Intermitting*.

Remitting is when the Fever is less, but *Intermitting* is when it is quite gone, and after that returns again. In the Paroxysms of *Intermittents*, there are for the most part shaking Fits, whereby also they are distinguished from *Continuals*.

There is also a Bastard *Causus* or *Elodes*, in which the Sick Persons Sweat continually and excessively. That Fever also is called *Affodes* or *Fastidious*, when the Patient has a Nauseousness and Vomiting.

Part Affected.

The Part Affected according to the *Ancients* is that Noble *Viscus*, the Heart; but the *Moderns* think it to be the Mass of Blood, and the little Vessels of divers Parts.

§. 2. *Diagnosticks.*

THE Diagnosticks of a *Burning Fever* or a *Causus*, are taken from these two Marks (*viz.*) a great Heat, and an Extraordinary Thirst; as for the other Symptoms, they

they are the same in this Fever as in all others. A *Quotidian Continual* Fever is manifest of it self, so long as it is in the Increase or Waxeth worse and worse, otherwise we must be beholden to the general Signs of Continual Fevers; for the hotter the Predominating Particles are; or the sharper or more Bilious they are; or, as in the Sense of the famous *Willis*, they are either Sulphureo-Saline, or Salino-Sulphureous, the more they disturb the Mass of Blood, and by Consequence the Symptoms are greater, or lesser.

The Signs of a *Continual Tertian*, besides those mention'd before as relating to Continual Periodical Fevers, are their growing worse and worse every third Day. But in Continual *Quotidians* a violent and beating Pain doth often shake the Loins, Back and Joynts of the Patient.

The Diagnostick of a *Continual Quartan*, is its more severe and constant return every fourth Day; the Heat 'tis true, is but dull, but afterward grows fiercer, the Pulse in the beginning small and slow, then it becomes great and swifter without shaking, or any Stiffness or Cold.

§. 3. Cause.

THE Old Galenists divide a Burning Fever into *Legitimate*, & *Bastard*, in which the Symptoms are milder. The *Legitimate* Burning Fever, they say, springs from the Bilious Humor putrefying within the greater Vessels, bordering on the Heart. But the *Bastard Causus*, they say, is derived from Bile mixt with

Phlegm or with a Salt Phlegm putrefying in the same Vessels.

But a *Continual Quotidian*, they say, comes from a Pituitous Blood putrefying in the Veins; and therefore they unanimously agree it hath its Increase every Day, and they prove it, in that young Children and Boys are often subject to this Fever, as also Old Men, and those that are Fat, given to ease and Feasting; but these Fevers, they tell us, are not so common, because Phlegm as they will have it, putrefyeth more difficultly.

A *Continual Tertian*, they say, which every Third Day grows more troublesome, comes from a Crude indigested Bilious Blood, putrefying in the *Vena Cava*. To which the hot and dry Indisposition of the Liver remotely contributes, as also hot and dry Nourishment, Youth, middle Age, or too slender Diet, too violent Exercise, too much Watching, or the frequent return of a hot and dry Air.

But a *Continual Quartan*, they say, happens but seldom, which grows fiercer the fourth day, and is produced from a Melancholy Blood putrefying in the Branches of the *Vena Cava*, and of it self naturally produceth Melancholy Blood, and disposeth it to Putrefaction.

As for the Fever call'd *Affodes*, a sort of a Burning Fever, they say it proceeds from some Violence committed on the Stomach by some sharp and Bilious Humour, that pricks or provokes its Orifice or Tunicles.

But as for the *Elodes*, a Fever which is always accompanied with Continual Sweats, it proceeds, either from some great Putrefaction of

of the Humors, or certain Malignity that preys on the very substance of the Body.

§. 4.

Paracelsus, who makes sixty sorts of Fevers, and all from one and the same Inflammation, without appropriating to them any particular Seat, saith, They are the Affects of Sulphur, and Nitre put into a Flame, or enkindled. Sometimes he calls a Fever a sort of an Earth-quake, from its shaking Symptom, some times again he calls it Mercury and Nitre, including the Cause and Remedy in the Definition.

§. 5.

Helmont layeth the fault of this Irregularity on the *Archæus* or Lifes Chariotier, who, on some Accidental Cause or other, is provoked to this disorder; for he proves by many good reasons, That it is impossible for the Spirit or Humors to putrefy; the accidental Cause is in a manner like a Thorn, which puts the *Archæus* into some extravagant Motion; nay, sometimes the *Archæus* of its own Accord, upon some small mistake, grows wanton, and in a manner furious. Now these Thorns (he Speaks of) are nothing else but certain Acute Corrosive Salts, produced from Indigestion, and which contribute to the firing of the *Archæus*.

§. 6.

Vallis divides a Putrid Synochal Fever into a

Symptomatical, and *Essential*. That is said to be Symptomatical, which takes its rise from some other Disease preexistent in the Body; so that the Fever is only a Symptom that attends the foregoing Disease, as the Fever which follows a Pleurisy, a Squinancy, a Wound, or Apostem in any chief Part; and as the Author saith, no Putrid Fever is altogether Symptomatical. For the Squinancy or Pleurisy are the Effects of a Fever, and not the Cause. In these Diseases he observes a certain disposition of the Blood to coagulate; and that from its Heaviness, or Sluggishness; as it is in Milk, when it begins to Sowre, for then it is not Boyl'd without Coagulation: so in the Mass of Blood, there is a certain Sowreness, which naturally disposeth it to Coagulation; for every Extravasation, and Inflammation from thence, in a Pleurisy, Squinancy or Inflammation of the Lungs, doth not always come from the Abundance of Blood, or Fulness of the Vessels, but the Blood is often stopped in its Motion, and in a manner stands still, from whence follows a sharp Pain. Nay, the Blood sometimes stands still in the very Heart, whence your pleuritical Persons often complain of a great Heaviness or Weight about the Heart, and when our Author opened the Bodies of some that dy'd of these Diseases, he found in the Cavities of the Heart and Vessels about it, the Blood in certain Morfels or Pieces. He saith, That in a *Simple Synochus*, the more Subtile or more Spirituous Part of the Blood is inflamed.

But in *Putrid Fevers* arising from the Catching of Cold, he concludes

cludes, That the Evacuation being stopp'd and those *Effluvia* retained (which like Leaven puff up the Mass of Blood) the Blood becomes more turgid in its Vessels than ordinary, and since through the defect of Air or fanning, the Natural Circulation is too much streightened, the imprisoned Blood breaks out where ere it finds a passage through the Arteries, and being Extravasated begets a swelling or hardness, which causeth an extraordinary Heat and Pain; hence the motion of the Blood is more disturbed, and the Fever at first grows more troublesome.

A *Putrid Essential Synochus* he divides, first into a *Putrid*, then into a *Causus*, or *Burning Fever*, as also into a *Quotidian*, *Tertian* or *Quartan*.

The Nature or Essence of a *Causus*, or *Burning Fever* (which finisheth its Period or Natural Course with a greater Heat, and a most intolerable Thirst, and other Symptoms that argue a greater Inflammation of the Blood) in the Sense of our Author consists in this, That the Blood in this case is hotter, that is, more impregnated with a sort of Combustible Sulphur, and therefore when it waxes hot, the Inflammation is greater, and becomes more Universal through the Body; thence also its Motion is Acute, and soon arrives to its height, the Symptoms are more vehement, the *Crisis* more difficult, and the Event more dangerous. As to the Fits or Periods in which a Putrid Fever at a certain time sometimes encreaseth, and like an intermittent returns sometimes every day, sometimes every third day; or every fourth day,

our Author here proposeth his Opinion, and presupposeth two principal things, which for the most part raise that Effervescency, or boiling up of the Blood. First, the Exaltation and Firing of the Sulphureous Part in the Blood. Secondly, a gathering together of that adust Matter that remains after that Firing, even to a Degree of Turgescency: From the first he derives the Continuity of the Fever, from the other the height and *Crisis* of it: and to these he adds a third (*viz.*) a Fulness and Turgescency of a Crude sort of Juices from Food lately taken, which in a Continual Fever causeth a greater Effervescency.

In a *Putrid Fever* that is very Acute, the whole Mass of the Blood, as he saith, is soon Enflamed, and in the greatest heat imaginable, whatsoever Nourishing Juice is added is Consumed by the Fire, so that little or nothing remains in the Mass of Blood, towards the next Fit. According then to the greater or lesser Inflammation of the Blood, and the Addition of Crude Juice, the Fever is either Stronger, or Milder. In every Fit he supposeth something of the adust Matter of the Blood, doth evaporate besides that Stock of degenerated Juice.

As to the return of the Fit every day, or every other day, that depends, in the sense of the Author, upon the various disorder of the Blood; hence that *Succus Nutritius* degenerated, ariseth sooner or later to a Degree of Turgescency, and therefore by its Effervescency. it produceth oftner, or seldomer Fits in this Fever.

§. 7.

Synchus distinguisheth the *Synochal* Fevers in respect of their different cause, into Bilious or Lymphatick, and by *Lympha* doth not only understand that Matter which goes from the Globular Glandules to the Heart, but also the Pancreatick Juice, and the very *Saliva*, or Spittle proceeding from the foresaid Glandules, and moisture of the Intestines, and all other Humors that mix with the Blood in its Circulation; and these Fevers he divides into Lymphatick, Glandular, Pancreatick and *Salival*. From Bile or Choler he chiefly derives all Burning Fevers, especially a *Causus*, from the Glandulous *Lympha* he derives all Fevers that are accompanied with the more vehement Pains of the Head and Joynts, as from the Pancreatick Juice, those that are accompanied with Pains of the Belly, from the *Saliva* or Spittle, those that are Accompanied with great Disturbance, and Stretchings of the Stomach, and other parts. Where then the Heat is sharper, as in a *Causus*, the Pulse quicker, the Urine thicker, and of a deep Dye, the Thirst Intolerable, the Tongue dry, and Cleft, and sometimes Black, he saith the Bile or Choler is Corrupted with a certain Lixivious Acrimony, or with too Oyly a Substance. But if the Fever hath also a gnawing Heat joyned with it, then he Ascribes it to the sharper or more Acid *Lympha* of all the Globular Glandules, or of most.

The Difference of these Fevers, is taken from the Vehemence of their Symptoms, and is reduced to four.

They are the *Causus* or *Burning* Fever, and the rest which invade the Patient with Inflammation, Burning and Redness.

As for those Melting Delirious Fevers, and the more Malignant ones, we shall Treat of them in their own order.

The Primary or Principal Cause of these *Synochal* Fevers, which torment the Sick with a continual and mighty Heat, is the Bile or Choler grown too Sharp or Oyly, whence riseth not only a greater Effervescency in the right Ventricle of the Heart, but also in the lesser Intestine, the Pancreatick Juice not a little contributing thereto, especially being sowed with its Stagnation, & as it were producing a sort of a Fit. For he looks on the *Lympha* as the Primary cause of those Fevers, that make their assault with continual Cold, and shaking, but especially the Pancreatick Juice, when debauch'd with a certain Acid sharpness, which stirreth up those Acid Vapours from the *Tenue Intestinum* in order to a new Fit, and raiseth a wandring Chilness through the whole Body.

§. 8.

My own Opinion is, that when there is any Obstruction in any Principal or publick Part, so as to cause an Inflammation, a Fever naturally follows, which if it constantly remains, is to be Stiled *Continual*, if it admits of any Truce, is to be called *Intermittent*. The Cause of a true Burning Fever, or *Causus*, is taken from a certain corrupt Humour, whose Pores are truly opposite to those of

of the Blood, which Humor proceeds either from the Perspiration being Violated, ill Air, or excess of Strong Liquors; from which Causes there arises so great a Conflict, and dispute betwixt the Volatil and Oily Salt, and Acid, with so great a Heat, and almost intolerable Thirst, that in this our Natural Kingdom, nothing but a certain Anarchy, and Confusion of the Animal Spirits remaineth for a while. Therefore a *Continual Intermittent* Fever, *Quotidian*, *Tertian*, or *Quartan* ariseth, when, from the solid Parts, some *Heterogeneous* Humour, Gross Salts, and nitro-sulphureous Particles invading the Mass of Blood, destroy its Symmetry; these ruder Particles, as I have said, which are either contained in the *Serum* or *Lympha*, Chyle, or Pancreatick Juice, or in the *Saliva* or Mass of Blood, are so jumbled together, that the whole Mass is put into such an Extravagant Fermentation, that it is a great while before it returns to its Peaceable and more Regular Motion: and so while this Offensive Humour, impregnated with these Particles, is communicated to the Blood, it is necessary a *Continual* Fever should follow. But when this Corrupt Humor, or Disproportion'd, or Anomalous Particles (whose Residence for the most part is in the Chyle) at certain set times, as it were by Surprise, invade the Purple Mass; then there ariseth an *Intermittent* Fever, and thus we include the Combat of the Acid depraved, with the Alcalick Particles.

And according to the Distinction, it is here to be observed, That a *Continual Tertian*, for the most

part, begins with Shaking, but the *Quotidian* not so; the *Quartan* after the Fit, leaves behind it Universal Pains, and so these Fevers are to be distinguished from one another in the beginning.

A *Continual Quotidian* Fever ariseth from the Crude, and more indigested Particles in the Chyle, or from certain Wild Salts or Fermenting Reliques, which lurking about the Milky Vessels, or Glandules of the Mesentery, and communicated to the Blood, do easily cause an Effervescency. The Phlegm is not here to be blamed, since I have known many *Continual Quotidians*, which have sprung from Cholerick and Sulphureous Particles, which the Symptoms that attend it, make good: which sort of Fevers often happen, and succeed *Tertians*; besides, the Reciprocal turn of a *Tertian* into a *Quartan*, or a *Quartan* into a *Tertian*, the same Symptoms still remaining, shews they both are derived from the same Humor. In a *Continual Tertian*, the Effervescency of the Blood is greater, because there is a greater obstruction the Vessels, and the Ferment therein contained is more active; in a *Quartan* the Effervescency is lesser and milder, because produced from Colder, and more Sluggish Particles.

There may be also *Quintans*, *Sextans*, *Septans*, *Octans*, and even *Nonans*, according to the greater or lesser Irregularity of the Blood: The Pains of the Head, that usually Occur in these Fevers, proceed from the Grosser Particles imprisoned betwixt the Brain and its Membranes, which by their Acrimony or Sharpness, pulling and vexing

vexing the Nerves, cause those Pains. As for the other Symptoms usual in these Fevers, we shall unfold them in our following Discourse.

§. 9. Prognostick.

THE Prognostick Signs shew us, That all *Burning Fevers* are dangerous, because the Fever is Continual and Acute. Burning Fevers arrive at their *Crisis* the fourteenth day, either by destroying or freeing the Patient; a weak Pulse is but the sign of a doubtful Event; for the Remoter it is from its natural, and usual stroke, the more dangerous it is.

The *Autumnal Continual Fevers*, are more dangerous than the *Vernal*, for in these you must always Purge for fear of a Relapse, in the other you must abstain; for the very Air supplies the defect of Medicines. According to *Galen's* opinion (*Comment on Aphor. 14.*) This Disease proves Mortal to Old Men. If the Urine is thick and without Sediment, it sheweth a great disorder in the Blood, the redder and thinner the Urine is, so much the worse.

When a *Continual Quotidian Fever* is great and slow, 'tis not without Danger, for it threatneth a Hectick.

And the *Continual Quartan Fever*, tho it happens very seldom, yet is dangerous enough and very Weak'ning, and at last from its long Continuance generateth a Dropsy.

§. 10. Dietetick Cure.

IN the most Acute Fevers, whose Crisis is in the space of four days, the most slender Diet is most necessary by reason of the Extream Immediate Pains, and the great Violence the Blood and Animal Spirits are under. For Meat, altho it contributes to Preservation, yet it removes not the Cause of the Fevers, according to that usual Maxim, *Impure Bodies, the more you Nourish them, the more you Hurt them.* Hipp. 2. Aph. 10. Therefore they are much out, who are always loading the Patient with Meat, since they only hasten their Destruction; and let a Physician prescribe what he will, or forbid what he will, nevertheless in this they are Arbitrary, according to the common saying: *They Live as they will, are Cured as they please, and Dye as they ought.*

For the Stomach by reason of the want of Animal Spirits, & great disorder that attends the Fever, grows Infirm and Weak, and therefore performs not well the Work of Digestion, but rather by Crude and Corrupt Matter affords Nourishment to the Fever. Hence, *Hippocrates* 7. Aph. 1. 15. *If any one gives Meat to one in a Fever, what would be Nourishment to him in Health, advanceth the Distemper when he is Sick.* Therefore at the approach of a Fever, we hold Abstinence mighty necessary. Hipp. 1. 3. in his Discourse of Diet saith, *If a Fever assaults one that is Plethorick, if you afford the Patient nothing but Water for three days,*
the

the third Day the Fever will go off, if not, you must use a Piffan, and the fourth or seventh Day the Fever will leave him, especially if he shall sweat. Therefore let those that are Sick of a Fever, abstain from Flesh, and let them rather take thin, cooling Broths; let their Drink be Small-Beer, Barly-water or Tamarind and Sorel Whey, or a Decoction of Harts-Horn with Sorel Roots; but in their usual Drink let there be put some Drops of the sublimated Spirit of Salt dulcified, or of Salt of Nitre: Juleps with the Dulcified Spirit of Nitre are very proper: and, as occasion serves, a little Wine and Water may be allowed.

A Cooler Air is here to be chosen, which if Nature denies, let Art some way or other supply, and to secure the due Perspiration of the Body, let the Patient be well Guarded with Light Cloths: A hot Sultry Air is bad, as also the Night Air. In these *Continual* Fevers, let them abstain at first from immoderate Sleep. Keep the Body open, and the Mind at ease; for all the Passions of the Mind are to be laid aside, especially Sadness and Anger; and great care is to be had as to all those things we call not Natural, for Care is to be taken, that what Nature endeavours to cast off as an useless Burden, be not retained, unless there be an immoderate Evacuation (that Weakens the strength) which is to be hindered, and all Vehement Perturbations are to be avoided.

§.II. Pharmaceutick Cure.

THE *Dis Galenists* presently in the beginning of Fevers, fly to Phlebotomy, as to a certain Refuge, because, as they say, it doth not lessen the plenitude or fullness of the Vessels, or diminisheth the strength, of the Patient, but it cools the whole Body, preserveth a due Perspiration, and keepeth off Putrefaction: The Ancients usually bled their Patients even to a degree of Fainting, but the more prudent of them, thought the Repetition of Phlebotomy at several times more proper, giving a Clyster before. The Galenists also advise that the Patient Bleed often till the most Corrupt Blood appeareth, and instead of Breathing a Vein they make use of Cupping, Glasses and Scarifying, where the Patient is Weak, as in those Fainting Fevers, or where the Age admits not of the other way.

Their Pharmaceutick Remedies are either those that are Evacuating, or those that are altering: under Evacuating Medicines, they comprehend all Emeticks, Sudorificks, and Diureticks: under the Alteratives they include all those Medicines that Cut, Cool, Open or Comfort. As to Purging Medicines, they are not to be given in the beginning, unless the Morbifick Matter grows troublesome, and bulky, by which the Fever increaseth, which is easily discovered, by Nauseousness, Thirst, Heart-ake, Bitterness in the Mouth, or Flux of the Belly, and other Symptoms, in which respect sometimes a Purge is given before Bleeding; but the Purgers ought to be of the

the milder sort; as *Cassia*, *Manna*, *Tamarinds*, *Tamarind-Whey*, *Diaprunum*, Syrup of *Roses*, solutive of which they compose certain Forms, which you may see among the Ancient Practitioners.

And if Nature endeavours to fling off the Morbifick Matter the upper Way, which the Physiciant may easily guess from the Nauseousness, and Vomiting, then they advise Vomits, for they say it hath often happ'ned, That by a Vomit in the Beginning, the Fever hath been removed, which otherwise might have long continued: but they prescribe in this Case the Milder sort of Vomits; as for Example; Barly-Water luke-warm, with the Oyl of sweet Almonds, or the Common Decoction, with the Seeds of Dill or Rhadish, to the Quantity of a Pint, for under that Quantity, they are apt to remain in the Stomach.

In the whole Course of this Disease they Prescribe Glysters every Day, especially if the Body be not open, which may be Composed of Coolers and Mollifiers.

After Bleeding, and the Cleansing of the first or upper Passages, the Preparing Medicines or Digestives are advised, which both mitigate the Heat, prevent Putrefaction, and open Obstructions; such as are Juleps, Cooling Broths, and Emulsions. In Cholera or Bile that is Sharp and Thin, they recommend Acids used in Juleps, in the Progress or Advance of the Fever. Where Concoction or Digestion of the Humors is Apparent, they make up of a Decoction of *Asparagus* Roots, and Liquorice, the Leaves of Agrimony, and Pimpernel.

In lasting Fevers that rise from the more Stubborn Obstructions, they recommend a Decoction of Ground-Ivy, or Succory, or Chamomil.

The Ancients also allow a large Draught of Cold Water in Putrid Fevers, in which the wiser part of them are very Cautious; yet in a mighty Burning Heat, they allow even a Pint of Cold Water, with some Drops of the Spirit of Vitriol. To recover Strength, they recommend several Cool Strengtheners, to which they add the Powder of Pearl, or Harts-horn, *Diamargaritum Frigidum*, *Diatris*, *Santalum*, *Diarrhodon Abbatis*, Confection of Alkermes or Hyacinth; for the Forms of which I remit my Reader to the foregoing Practitioners. In the Turgescency of the Matter, and Declension of the Disease, they fly to stronger Purgers, as Rhubarb, Agarick, or Mechoachan; and if the Fever continues, they repeat their Purges, adding Preparatives between, till at last the whole Mine or Seed of the Disease be Exterminated.

After Purging, if Nature seems to derive the Morbifick Matter, through the Ureters or passage of the Urine, they assist her with Diureticks, for which end they Prescribe Emulsions, and the Roots of Fenil and Parsly to be boyled in Broths: but if they observe Nature endeavouring to cast off the Enemy through the Pores of the Body, they propose moderate Sudorificks, as *Carduus* or Fumitory-water; for they say, to moderate the Feverish Heat of the Body, and to strengthen the Vitals or principal Faculties, 'tis necessary the Pores of the Body be open,

and that the Filth be carried off that Way; to which end they outwardly apply certain Remedies, Epithems and Balsams to the Heart, and Liver, and other parts, which they either prescribe in the Height of the Fever, or in its Abatement, whilst the Heat diffuseth it self to the outward parts, not in the Beginning or Increase of the Disease, much less at the approach of the *Crisis*: In the Extraordinary Heat they apply several Coolers to the Feet, the Testicles and Hands.

§. 12.

THE Paracelsists in the Beginning of these Fevers, recommend a Vomit of Antimony, then they give *Laudanum Opiatum Paracelsi* from two Grains to three in Worm-wood-water; they commend also the Spirit of Salt Rectified to one or two Grains, in Suchory-water, & many other things, which you shall find afterwards.

§. 13.

HELMONT, with his Leader *Paracelsus*, brings many Reasons against the *Galenists*, as to Bleeding, which, they contend ought in these Fevers to be omitted; for *Helmont* Glories that he hath cured many Fevers without Bleeding, granting the Patient Wine also; nay, he saith more, that he who cureth not a Fever within four Days, is unworthy of the Name of a Physician, and the Remedy here made use of is a Sudorifick, (*viz.*) Diaphoretick Mercury, which cutteth, resolveth, and carrieth off the occasional Cause thereof wheresoever it be, and this it performs sometimes without

Sweat. The other Remedies, as we said before, were composed of Cephalicks, Marjoram, and Rosemary, which are not Alkali's, but Volatil's, containing the Constitution of Simples; these are the moderate Diureticks, which in Intermittent Fevers, are to be given, the Stomach being empty, just before the Fit; in Continual Fevers, at any other time. For *Helmont*, in the Cure of Fevers, doth not only regard the Occasional Cause, but the Excellencies and Disturbance of the *Archæus*, which being Appeased, the Fever ceaseth, the rest he leaveth to the Work of Nature, which (Generally Speaking, is its own Preserver: He allows also a little Beer, mixt with a little Wine and Bread for Humectation or Moistening, but as for Rich Pearl and Golden Cordials, he rejects them as not agreeable to our Spirits. But *Helmont's* chief Intention of curing Fevers is by Sweat, for the *Archæus* with its own Passion is Enflamed, and produceth a hot Sweat, and so hints to the Physician, which way the Fever is to be carried off, (*viz.*) by Diaphoreticks.

§. 14.

WHAT in the Cure of Putrid Fevers hath four General Intentions; First, That the Blood be cleared from that Sulphureous Inflammation it labours under; Secondly, That the Blood enflamed, may burn out with the less danger; Thirdly, That the Inflammation being over, the Blood be restored to its Natural Temper; Fourthly, That a speedy Care be taken of the Symptoms.

At the first Siezing of this Distemper,

temper, the whole Business consists in suppressing the Fever, or stopping the Inflammation of the Sulphur, to which end he adviseth Bleeding; for thus the Blood is Cooled, and the more troublesome Particles are Dissipated, as you see in Hay that is like to take Fire, if it be exposed to the Air it is preserved. He adviseth also that the first Region be Cleansed: and for this end he commends Glysters, sometimes Purgers, and the milder sort of Vomits, which being seasonably administred, remove the Fever at the first. If notwithstanding all this the Fever perseveres, Care must be taken that the Deflagration of the Residuous Sulphureous Matter be performed with as little Tumult as may be. When the Acute Fever, according to this Author, is in its encrease, with a strong Pulse, accompanied with Watchfulness, *Delirium's*, or Head-achs, Bleeding again is proper, that a free Transpiration may be maintained; Glysters also in this Case are safely given, and laying aside Purgers, or Diaphoreticks, rather use Opiates and Anodynes, which may appease the Blood, and fix the Spirits: For that end this Author Commends Juleps and Decoctions or Broths, which cool the Burning Entrails. Things that temper the Blood, and comfort the Spirits, are to be given often: but for your Hot-waters or Spirits, Bezoardick and Cordial Powders, where there's no Malignity in the Fever, they are to be shun'd as extreamly dangerous. If the Fever is come to its Height, wait diligently for the *Crisis*, suspending all things in the mean while, neither Bleeding nor Purg- ing. After the heat of the Fever

is a little over, and the Signs of Concoction appear in the Urine, and that Nature is yet but slow in its *Crisis*, then you are to promote by some gentle Purge or Sudorifick: but if all things are yet Crude, and without Sediment, there is decay of Strength; and Purg- ing or Sweating is not to be allowed of without danger of Life. But in this case Nature is to be supported with moderate Cordials, the Extravagant Effervescency of the Blood is to be prevented, and a due Fermentation preserved, which is best done with Powder of Coral and Pearl.

As for the Symptoms, especially the most Violent, he hath very fit and appropriated Medicines, which the Courteous Reader may meet with in his Treatise of Fevers; he may Consult also the Writings of other Practitioners, especially *Johnston's Syntagma Practicum*.

§. 15.

Splenis in these Putrid Fevers allows of Bleeding in the Beginning, yet chiefly when the Burning is most; but when there appeareth any Sign of a troublesome Acids, he adviseth Sudorificks, especially the pleasanter Aromaticks and Volatil Salts; and when the Bile or Choler grows troublesome, he orders Purg- ing or Vomiting, and in a seasonable time he adviseth some De-oppilatives, which may open the Obstructions in the passage of the *Pancreas*, and correct its Juice, which sort of Prescriptions you may meet with every where.

§. 16.

BUT ~~we~~ advise, in these Putrid Fevers, to do what is to be done speedily, Purging, and Bleeding the first or second day; but when Malignant Symptoms appear at first, as they often do, for Reputations sake, you must be very Cautious. Amongst Purgers, your Infusions are excellent; also Vomits may be safely given in the Beginning, which often prevent worse Symptoms: But in softer and more delicate Constitutions Glysters, in the Beginning, of Mollifying and Febrifuge Ingredients are more safe; in Old Men, as also at the approach of the *Crisis*, and in the Declining of the Disease, they are not so proper.

When therefore the Physician is called at the Beginning of the Disease, if the Patient be not Weak, let him first Bleed, then gently purge, and immediately after that, administer some powerful Sudorifick, and thus the Physician will hardly ever miss his Aim.

If there be a Sharpness or Acrimony joyned with the Fever, you may however safely Bleed, and after Bleeding give some Sudorifick; but if the Patient grows Weak after Bleeding, administer a Cordial, and then let him Sweat two or three Hours; those that immediately Fly to the use of Cordials, bring the Patient in great danger of his Life For the Cleansing of the first Region (which whether it be convenient or no, you may guess by Nauseousness and Vomiting,) the following Infusion will be very proper.

Take of the Leaves of *Senna* two Drachms, Seeds of *Fenil*, of *Siler Montan.* of each half a Drachm, Small-Beer not old four Ounces, let them stand a Night, and strain them in the Morning for a Dose. Or,

Take of an Infusion of *Rhubarb*, two Drachms and a half, in a sufficient Quantity of *Succory* and *Dandelion-water*. Or,

Take of the *Tamarind* Claret of *Myns.* three Ounces. Or,

Take *Smallage-root* one Ounce, *Tamarinds* an Ounce and a half, boyl them in a sufficient Quantity of *Fountain-water*, adding towards the end, of the Leaves of *Senna* half a Drachm, Seeds of *Bastard Lovage* one Drachm. In Twenty Ounces of the Colature dissolve of the Syrup of *Succory* with *Rhubarb* two Ounces. Mix it, and at one Dose, give to the Patient from two to four Ounces. Or, you may give the Extract call'd *Diacarthamum*, or *Diacitrum*, if the Nature of the Patient will bear it.

And at the Beginning a Vomit of Antimony may be given with safety, the Emetick Syrup to six Drachms, or white Vitriol to half a Drachm, or Emetick Tartar to two or three Grains, *Crocus Metallorum* Absynthiated two Grains. Such Prescriptions as these you may frequently meet amongst the Practical Authors: All acid Mineral Spirits are of the Family of Alteratives. Sudorificks are the safest Medicaments; amongst which Dr. Michael's Bezoardick Tincture is excellent, as also *Mixtura de Tribus*

bus, Spirit of Harts-horn, Soot, and all Volatil Salts. But let the Physician take care he mistakes not a Burning Fever, for a Malignant one, or a Malignant one for a Burning one; therefore in the Beginning we may give Milder Cordials, as we do in other Fevers; for a Malignant Fever in the Beginning is often like a *Causus* or Burning Fever. Therefore care must be taken to know, whether or no it be Malignant, which we may easily guess it to be, if they are at that time very common, and especially if the Patient complains of heaviness of Heart, and weakness, and other severe Symptoms. There is no certain sign of Malignity to be learnt from the Urine, nor from the Pulse, therefore the Signs are to be considered all together or Conjunctly. To oblige the younger Practitioners I will add some Sudorifick prescriptions.

Take of the Magistery of Harts-horn, the Back-bone of Vipers of each one Scruple, *Bezoard. Solar.* half a Scruple. Mix them, and divide them into two equal parts, for two several Doses.

Take of the Spirit of Harts-horn, Water of *Antimonium Diaphoreticum* of each one Scruple, Salt of Vipers six Grains, divide it into two equal parts, for two several Doses.

In a *Causus* or Burning Fever, I take to be very profitable Diaphoretick Powders not too hot, of *Antimoneum Diaphoreticum*, *Bezoard. Mineral.* of Gold, Silver, or Tin, prepared Pearls or Crabs-eyes, *Sal Prunellæ*, or Tartar Vitriola-

ted with the Addition of a little Camphore.

The Alteratives that are particularly, or more specifically convenient in a *Causus*, are Whey, or the Destilled Water of Whey, *Nitrum Tabulatum*, *Tinctura Corroborans Cardamomifata*, Tincture of Daizies, Violets or Roses, of which some Drops are always to be put in their usual Drink to remove Wind, and Obstructions. To comfort the Pores and other Vessels, those Alteratives that are partly Cordial, are proper; as the usual Cordial Waters, Confection of Hyacinth, *Sal Perlatum*, *Corallizatum*, and the like.

In this Case also outward Medicines are to be applyed sometimes to the Liver, sometimes to the Back; as the Cooling Oynment of *Galen*, *Unguentum Rosaceum Mesues*.

In a *Continual Quotidian* Fever instead of a Digestive, there is nothing comparable to the *Facula* of the Root of *Arum*, the Stomachical Powder of *Birchman*. For Purges, *Pill. Panchymagog.* and *Phlegmagog.* are best.

For the removing Obstructions and to correct, and throw out the ruder Salts, the Febrifuge Salt of *Mynsicht*, and the Flowers of *Sal Ammoniac* are very proper, likewise my own Febrifuge Tincture, which you have in the following Composition.

Take of *Extract. Theriacal.* Wormwood, the lesser Centaury, Gentian of each a Drachm, Jesuits Bark half an Ounce, to which add the Volatil Spirit of *Sal Ammoniac* a sufficient Quantity. The Dose is from twenty Drops to forty. Or,

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Take

Take of the Febrifuge Elixir half an Ounce, the Dose is forty Drops. Or,

Take of Vitriolated Tartar two Scruples, Salt of Worm-wood, Centaury, Mineral Gold of each a Scruple, divide it into four equal parts.

The Essence of Worm-wood, and the Febrifuge Elixir in respect they are good against a Cachexy or ill Habit of Body, ought to be taken every Day, and in this Sence also *Vinum Absinthitum*, *Chamedritum*, &c. are very good, or the Essence of Worm-wood dropp'd in the Patients usual Drink. So also the Spirit of Vitriol, of Copper, *Penotus's* sweet opening Spirit of Salt, may be dropped into Beer to give it a pleasant tast. If the Patient be subject to Swooning give the Tincture of Coral, with the Cordial-Water of a Stag's Heart of *Mynsicht*, &c.

In a *Continual Tertian* in your Alteratives add always some Acid, as the Spirits above-named, that they may pierce the deeper, and take away Thirst: but here you are to observe, That the Spirit of Nitre is not to be mingled with the Spirit of Salt, because they will raise a Fermentation. The double Secret of *Myns.* is very good also. In this Fever I have likewise a particular Preparation of Tin. Camphore in this Case is very useful.

Take of the Stomachical Specifick of *Poterius* a Scruple, Harts-horn prepare without Fire, prepar'd Ivory of each half a Drachm, Camphore two Grains.

Divide them into two equal parts.

Diureticks are also profitable. The Tincture of the Flowers of *St. Johns-Wort*, Blew-bottle and *Calcatrippa* may be given to a Drachm, the compound Spirit of Salt to fifty Drops at a Dose.

Take of *Bezoard. Mineral.* half a Scruple, Water of *Carduus Benedictus* three Ounces, Syrup of *Carduus Benedictus* two Drachms. Mix them. If the Patient be Weak,

Take of *Aq. Confortat.* an Ounce and a half, Saffron and Camphore of each three Grains, sweet Spirit of Salt six drops, Syrup of the juice of Citron three Drachms. Mix it for one Dose.

In a *Continual Quartan* rather abstain from Bleeding. The Purgers that are most proper, are, *Extract. Melanagog.* The Tartareous Pills of *Quercetan*, or of Gum Ammoniac, an Infusion of Fumitory, Oxymel, and Purging Ellebor. For Sudorificks, Fumitory, *Carduus Benedictus*, *Guajacum*-wood, and Sassafras are most convenient. The Water or Spirit of *Sal Ammoniac*, or also the Flowers of it, and also Preparations of Steel are very profitable; and amongst these particularly the Cachectick Powder of *Quercetan*, my Febrifuge Tincture. These are Prescriptions.

Take of the Cachectick Powder of *Quercetan* three Drachms, Confection of Alkermes one Drachm. Mix them. Take *Arcanum Tartarif.* leas'd Earth of each a Drachm. The Dose

is

is thirty, or forty drops.

Care also is to be had of the Symptoms that attend these Fevers, such as Looseness, Watchings, Thirst, and other things that vex the Animal Spirits, which I shall Treat of below. It very often happens that notwithstanding the Fever be gone, the strength of the Patient is so worn out, that there followeth a great Weakness, in which Case *Sydenham* doth with great reason advise the applying a

young Youth to the Patients Belly, and by his own Experience Witnesseth, that many have recovered their Strength by that means. As for the rest it may easily be Collected from what either hath, or may be mentioned hereafter. Preserve the Strength by inward Medicines, but above all, the following Mixtures are very proper.

Take the usual Pearl-Waters, &c. and other temperate Cordial Powders.

D d d 4

CHAP.

C H A P. I V.

Of the Slow Hectick Fever, the Colliquative or Melting, and the Lymphatick or Catarrhus Fever.

§. I.

AS for these Fevers, in respect they are derived from one Cause, I shall Treat of them in the same Chapter, excluding hence all Subtil and Scholastick Distinctions, which the Practical Physician hath no use of.

Paracelsus calleth the *Hectick Fever Targam* and *Aridura*; And it is commonly described to be; A Continual Disease, that takes its Rise from the Fermentation of the Blood depraved, assaulting the Patient with a small quick Pulse, and sharp Heat, especially after Meals, not without a Manifest Consumption of the Body. The Hectick Fever, that is Habitual, is for the most part Continual, and yet admits of the same sort of Fits after Meals, with a moderate, but Extraordinary sharp Heat, sometimes with a previous shaking, but oftner without it, by which the whole Body grows mighty Lean, and is very much consumed.

This Fever, according to Physicians, hath three Degrees: In the first Degree there is a small Alteration, with a Consumption of the Body, which is hardly perceived, ei-

ther by Patient or Physician, and so oftentimes the true Season of curing is lost.

In the second Degree, the Consumption of the Body is more manifest, with a greater Heat, especially an Hour or two after Eating, which shews it self chiefly in the Cheeks, and Palms of the Hands.

In the third Degree, the Body is so Extenuated, that the Hippocratical Face appears, and the Bones are hardly covered with skin, with an Oily Urine, Faint Sweats by Night, Continual, or, as they call it, Habitual Heat. Which Degree of a Hectick is that which is called a *Marasmus*, or *Tabes*.

The *Colliquative* or *Melting* Fever is also referr'd to the Species of a Continual Fever, in which the Body is extreamly Extenuated and Lean, so that in a short time nothing but Skin and Bones appear. Of this sort also is that Fever which is called a *Sweating* Fever, because the Body doth constantly and even excessively Sweat; so that it is in a manner dried up and extraordinary Weak. A Hectick Fever is also divided into a *Primary* Hectick, which discovers it self from the Beginning; and a *Secondary* one, which succeeds other Fevers; also into a *Solitar*

litary and Simple Heſtick; or it is joyned with a Putrid Fever, and ſo it is complicated: Again the difference is in reſpect of the Place, the Subject, and the Cauſe; and in General it comes from the Conſumption, Corruption or Inflammation of this or that part, or from this or that Diſeaſe.

§. 2. Part affected.

THE Ancients placed this Fever in the Solid parts, ſome making the Heart its firſt and adequate Subject, or rather the Solid Parts of the Heart, which parts grow dry, and are more, or leſs Irritated, according to a good or bad Sanguification, and ſo conſequentially the Body is well, or ill Nourished: The Solid parts are ſaid to be the Subject of this Fever, in reſpect the effects of it, (*viz.*) Conſumption and Leanness more evidently appear in thoſe Solid, and Fleſhy parts; when in the mean time the Diſtemper lyeth hid in the Maſs of Blood, the *Serum* thereof being wholly waſted, and Communicating a certain Acrimony to the foreſaid Maſs, whence it acquires a ſharp and Fermentative Intemperature: thence cometh the Heſtick Fever, tho *Helmont* maketh the Stomach the ſeat of this Diſeaſe, as well as of many others.

§. 3. Diagnostick.

THE Signs are expreſſed before, for the more uſual are theſe; (*viz.*) a quick, frequent Pulſe, and every day leſſer, a watchful kind of Drowzineſs, a Pain in the Head and through the whole Body, a ſoft ſlow Fever, and violent Heat

in all the parts, the Eyes of the Patient are heavy, and he is extremely Thirſty, with a dry, ſmall Cough; he is alſo Drowzy, and often Morose: The Urine for the moſt part is as it ſhould be, but in length of time it hath a certain Oyl ſwimming on the Top, which is not the Fatneſs of the Solid Parts, as ſome think, but certain Oyly Particles inherent in the Maſs of Blood, and with the *Serum*, according to the rule of Circulation, tranſmitted to the Urinary Veſſels. As for Appetite and Sleep, thoſe that are Sick of this Diſeaſe, have them indifferently well, they Spit not much, nor is their Cough very moiſt, and they daily grow Leaner and Leaner, and after Eating are always Feveriſh, & Red in the Cheeks. They are for the moſt part troubled mightily with Night-Sweats, which diſſolves their Spirits, and melteth away their ſtrength; whence enſueth Naturally a wearing away of the whole Body, with a wonderful pale lean Face.

The Pathognomick Signs are theſe three following. Firſt, That the Diſeaſe is conſtant, and ſo by Conſequence continually preying upon the Vitals.

Secondly, That the Body, and more eſpecially the ſolid parts thereof are Conſumed.

Thirdly, That an hour or two after Eating, the Feveriſh Heat increaſeth even to a Degree of a Fit; the pain of the Head and burning proceed from Obſtructions, and either becauſe, by the Exceſſive Heat of the Fever, the blood grows ſharper, or that an Inflammation ariſeth perhaps in ſome ignoble Part, when Fevers are not well Cured, which Inflammation being ſuppurated

rated, and mixing with the Blood, sowres the whole Mass. Sometimes after an imperfect Cure, or perhaps the use of Cold Medicines, the strength of the Patient is wholly decayed. After Eating the Fever increaseth, because of Fresh and New Matter being Communicated to the Blood in the Nature of Chyle.

§. 14.

AND now we have Treated a little of the Signs or Symptoms of this Disease, it is necessary we say something of its Causes, which before we proceed any further, to go Methodically to Work, we shall propose according to the Sentiments of the *Galenists*, who divide them into *Next* and *Immediate*, or *Remote* and *Mediate*.

To the Outward Cause they refer all those things, which are apt to raise other Fevers; such as are the Heat of the Sun or Fire, too much and too violent Motion, Excessive Watchings, Grief and other Passions of the Mind; also Extraordinary Evacuations; as a Looseness, Dysentery, or Bloody-Flux, *Cholera*, Spitting of Blood, &c. and lastly, Hunger or want of Food in dry Bodies, or Sharp, Hot and Putrid Meats and Drinks, and many other such things, which, (as they say) destroy and devour the Radical Moisture.

The Inward and Nearer Causes, are the Inflammation of the Entrails, Burning, Pestilential, and long Fevers, Ulcers in all the *Viscera* proceeding from the Venereal Distemper, or from the Scurvy, all which are sufficient to cause a slow, & Hectick Fever. So *Galen* saith he saw

a Hectick which took its Rise from the Inflammation of the *Septum Transversum*, & no less do the Modern Practitioners ascribe the Cause of an Hectick to the Corruption of the Liver, for they say there is a certain Filth that is sometimes Generated in the Liver, which corrupts even the substance of it, and Transmitting its Filth by Circulation to the Heart, in a manner sets it on Fire.

Sometimes they ascribe an Hectick Fever, only to Obstructions in this or that Intestine, which hinder the passage of the Chyle, and prevent the due separation of Humours.

§. 5.

THE *Chymists* hold that this Fever proceeds from the Sulphureous Spirits, being Enflamed or Kindled in the Heart, which, as their Master saith, is over in a Months time.

§. 6.

HELMONT saith, that in a *Continual constant* Hectick, the Spirits are diverted from the Office of Digestion, so that what is but in a manner half Digested, becomes Corrupted. He is satisfied also, that the Consumption comes from the Obstruction, and Corruption of the Innate strength, as also from a sharp Filth; which he hath observed in a Sedentary Life.

§. 7. *Wil*

§. 7.

WHILE doth not derive this Fever from any Obstructions in the Liver, Spleen, or Mesentery, that may hinder Digestion, but rather from an ill Constitution of the Blood, which being grown too sharp or sower, is Prejudicial to Nourishment, and a just Circulation: For he supposeth the Blood in the Heart, like Oyl in the Lamp; which if it aboundeth with too Salt Particles, it Burns not softly nor pleasantly, but crackles and waists away strangely, giving but a Weak and Faint Light. Our famous Author opened one that Dyed of this Disease, and found all his Entrails and other Vessels very sound, except the Lungs, which were grown dry, and stuffed with a Sandy Matter, not unlike Chalk. So also in this Disease the Mesentery or its Glandules are stuffed up with a Clayish sort of Matter; Now whether the Blood becomes thus Salt through the Entrails being obstructed, and permitting only the Watry Part of the Chyle to pass thorow them, or whether they are Prejudiced by the passage of a Salt Blood, our Author doubts, and is probably perswaded they equally offend each other. Therefore if this Distemper proceeds from an Ulcer or Apostem in any Part whatsoever, a Fever is the necessary Concomitant, thence he derives a Continual Fever, and Depravation of the Nourishment.

§. 8.

SPIGHIUS hath often observed these Hectick Fevers only to rise from excessive, or violent Exercise of the Body; or, that they may proceed from Extraordinary Anger, Sadness, or immoderate Grief (as D. Schadius observ'd in a certain Woman, who from extraordinary Grief for the Loss of her Husband fell into an Hectick) none doubteth. Our Author deriveth this Disease also from immoderate Watching, as also from long Fasting, or from Meats of small, and bad Nourishment, and with many Reasons condemns the *Saliva* or Spittle. He observeth also that this Disease, as also the more Stubborn *Quotidian*, *Continual*, and *Intermittent* Fevers, have other Symptoms attending them, as generally the Inflammation of the Entrails, and chiefly of the Lungs, and thereupon Ulcers and Apostems: He Condemns not the Liquor of the Glandules or Pancreatick Juice, so much for being sharp, or sower, as for being clammy, by which the Bile or Choler becomes more Sluggish, and the *Lympha* more Dull.

He looks upon the Excessive Clamminess, or Viscosity of the Humours in General, and particularly of the Blood it self, as the true cause of waisting away in an Hectick Fever; for by that the Nourishment of the Parts is by little and little Destroyed.

As for the Cause of a Fit after Eating, he ascribes it to the *Saliva* being too Glutinous, whence the Chyle passing sooner to the Intestines, and meeting with the Bile

or

or Choler in its way, takes a Tincture of it, which is Communicated to the *Saliva*, and ſo by Circulation to the Heart; from whence a Pulſe quicker than ordinary is raiſed, as alſo ſome Redneſs in the Face, and a gentle Heat in the Skin, which according to the Conſtitution of the parts produceth other Symptoms in other places.

But when the Heſtick proceeds from an immoderate Motion of the Body, in this Caſe he thinks, that not only the animal Spirits, but that the *Serum* of the Blood is Exhausted, and thence it is, he ſaith, that all the Humors become ſharp.

As oft as the Heſtick comes from Grief, he Aſcribes the Cauſe to the Pancreatick Juice, which being ſowred, renders the other Humors more Clammy and Sluggiſh.

The cauſe of an Heſtick from Exceſſive Watching, he derives from the Conſumption of the Animal Spirits, and the cloſer crowding of them together, as alſo the ſharpneſs and Tenacity of the Humors.

When the Heſtick comes from long Fasting, he ſaith there followeth a General ſharpneſs of the Humors through Defect of proper Nourishment, which in Concluſion, produceth Sluggiſh and Clammy Humors.

When a Heſtick ſucceeds a *Quotidian*, then he concludes ſome Errors have been committed as to Diet.

When it ſucceeds a *Synochus*, he aſcribes it partly to the Acrimony or ſharpneſs of Choler or Bile, and partly to the exceſſive uſe of ſuch Medicines, which even corrupt

and thicken the other Humors in the Body.

When Intermittent Fevers end in an Heſtick, they breed Peccant Humors more or leſs.

When a Heſtick ſucceeds an Inflammation or Apoſtem of the Nobler Parts, eſpecially of the Lungs, it comes from a Filthy Corruption, which hath invaded the whole Maſs of Blood, as alſo a Depravation of Nourishment, whence all Parts in General are rendred unfit for their Natural Functions.

§. 9.

V^C confels with *Sylvius*, That the Cauſes of this Heſtick Fever are Various, and Manifold; for whether, as he ſaith, the *Saliva*, Nourishment, or any of the Non-natural things may immediately produce ſuch a Fever, I very much doubt; neither is the Pancreatick Juice, the glandules, or any other Humors any otherwiſe Prejudicial, than as they infect the Maſs of Blood, inducing a Cacochymy, or ill Habit of Body, and ſo, as it were, making way for the Inflammation and Suppuration of this or that more or leſs Noble Entrail, and ſo they cannot immediately produce a Heſtick Fever; but rather it is to be believed, That the Humors, either the Pancreatick Juice, the Lympha, or ſome other, as they paſs through the ſuppurated Bowels, contract a certain ſharpneſs, and thus diſorder the Maſs of Blood, whence a Heſtick may proceed. For it is certain that in this Diſeaſe the Blood becomes ſharper than it ſhould be, from thoſe Cauſtick Salts, ſometimes from a certain ſharp depraved

praved Matter, which Incorporates it self with the Blood and other Humors in its Circulation, whence comes the Name of an Hectick or Habitual Fever, because the Cause thereof is in a manner Fixt in the solid parts. This Fever may Spring from the Diseases of the Head. Thus at *Hanover* I opened a Boy of Fifteen Years, and a Girl of Nine, and found I could not ascribe the Cause of the Hectick or the Death of these Children, to any thing but an Apostem, radicated in the Substance of the Brain. In like manner we have seen many Hectical after a Pleurisy, as *Sydenham* has observed in these Words. "Some-times after a great Inflammation, and Omission of Bleeding in the Beginning of the Disease, there groweth an Apostem, from Corruption gathered in the Howness of the Breast, in which Case either the Fever altogether ceaseth, or at least becomes milder, and yet the Patient not out of danger, but after an Ulcer in the Lungs and Hectick Fever, the poor Wretch dyeth of a Consumption. Sometimes also it succeeds a Dropsy of the Breast, and *Abdomen*, as also any Weakness, or Indisposition of the Stomach, the Intestines, Liver, Spleen or Mesentery, or any other Part, containing or contained; for a Hectick usually succeeds inveterate Ulcers, *Fistula's*, and such like Distempers of those Parts; as after a *Fistula ani*, a certain Citizen got a sad Hectick, and dyed of it: for when the Humours, by way of Circulation, pass through those affected Parts, they contract some New Infection, by which they create a great Disturbance in the Mass of Blood, Super-

inducing a sharp Indisposition: so that every Hectick Fever is in a manner Symptomatical. For if, Corruption from exulcerated Lungs or any other Part that is wounded, passeth through the Lymphatick Vessels to the Heart, and causeth a Hectick, why may not a Purulent Humor lying in any other inward or less Noble part produce the same?

The Procatartick causes herein concerned, are bad Air, Nourishment too Spirituous and sharp, producing Gross, Clammy, and sharp Humours, amongst which Sugar is very bad, for it is so far from true Sweetness, that it is able to dissolve Brass it self; nay, the Portugueses know how to Distil of the Reeds thereof a Spirit that is perfectly Cooling, Biting the Tongue, and Corrosive, even to the Consuming of Metals, Bitter and of a Nitrous Taste. But I am weary of Repeating these things that are so well known, and therefore shall hasten on to my intended Discourse. Excessive Watchings, unseasonable Studies, immoderate Sleep or Motion; the sadder Passions of the Mind, Grief, Anxiety, Sadness or Care, Envy, Anger or Hatred, play their parts here also; and for Excessive Evacuations, 'tis well known how prejudicial they are.

That Consuming away in a Hectick Fever, in my judgment, may proceed from the obstruction of the *Vasa Lactea*, or Milky Vessels in the Mesentery; for then the Blood sowers, because it increaseth not, and because the Watery parts of it fly away; for when the Watery Fountain in the Blood is lost, which may happen many ways, the Blood Contracts a sharp Fermenting

ing Indisposition, from the tart and corrupted Chyle mixing with it; hence it grows so sharp, that it becomes unfit for Nourishment, and even in a manner devours the Flesh from the Body, leaving scarce any thing but Bones. Sometimes it falls out, That the Capillary Arterious Vessels are obstructed, so that the Blood cannot pass through them; whence the Humours by standing still sower, and wear out the Body; in these Cases there is not always a Fever; but if in any Ignoble part there happens to be a Suppuration, so that any Corruption be Communicated to the Blood, by changing the Texture thereof, it causeth a Fever, and by sharpening or sowing of the Blood, addeth a Consumption or *Tubes*.

Heat also two or three Hours after Eating increaseth in the Body, because of the mixture of the Vicious Chyle with the Blood, which brings such a Matter of the first Element as cannot be carried thorow the Pores of the Purulent Blood, which also is not duly mixt in the right Ventricle of the Heart, and so makes other Pores in the rest of the Blood.

The quick, and frequent Pulse in this case doth not proceed, as some think, from any Clamminess, for that would perhaps produce the contrary, but rather from a disorder of the Animal Spirits upon the Fibres of the Heart, and Arteries, and from obstruction of the Entrails; for when they are obstructed, a thin Matter passing through the narrower Pores, forceth the Blood upwards; and hence the Pulse is Weak, and Quick. We have known also a Hectick Fever to be occasioned from

the unseasonable use of Baths.

The Pain of the Head and sharpness or Burning thereof proceeds from Obstruction, and from the Blood grown sharp with the great Heat of the Fever, or from some Inflammation perhaps in some ignoble Part when the Fever is not well Cured, which Inflammation being suppurated and mixed with the Blood, createth a sharpness there, and so produceth a Hectick.

The Blood also may be sharpened by too great an Abstinence from Drink, from whence Burnings and Pains are often produced. Children sometimes are subject to Hecticks from Eating of Crude Meats, whence the Milky Vessels are obstructed, the Acid increaseth, and the passage of the Chyle into the Blood prevented, or depraved before it comes there, of which we shall Treat in its proper place.

§. 10. Prognostick.

THIS Fever is very Dubious in the Event of it: for it is often Mortal, especially if it be in the third Degree, if the Face be extraordinary Lean, the Urine Oily, Night Sweats, and Continual Heat, &c. The first and second Degree is more easily cured than the third; so that which is in a manner radicated with a Consumption is most difficultly cured. So also is it when any of the *Viscera* are Corrupted, Enflamed or Exulcerated; for in this Case the Blood is so infected, and disordered, that it is almost impossible by Art to reduce it to its Purity, though in Boys and young Men, and if it

it be Simple the Cure is easier.

Hectick Fevers generally Rage from the fourteenth year, to the thirty fifth, and those that are Sick at that Age are hardly cured, but those who are Hectical before this Age, or a little after, more easily escape, and are often cured, or prolong their Life by some Palliative Cure, especially Women. A Looseness happening upon it, is no good Sign. If a Hectick assaults one from Corruption in the Lungs, or any other part, 'tis very difficult, or impossible to be Cured, but if with other Signs there happen a shedding of the Hair, it is incurable. The greatest Hope is, if the Patient, Nurse, and Physician do what they should do.

§. II. Dietetick Cure.

NOW let us come to the Cure it self, and first to Diet, which consists in the due observance of the six non-naturals, for the Matter of Remedies is taken from Diet, and Pharmacy; as in all other Chronical Diseases Diet doth much, so here particularly it is of so great Importance, that it does many times more than all the Medicines that are given. Therefore choose a Temperate Air, or make it so; such a one as inclines to Cold, and moist, or rather according to Dr. Sydenham's Advice, Change of Air, and Journeys may do much good. Galen 1. Meth. c. 8. in the hottest time of Summer orders his Patient to live under Ground, in a place that is very Cold, and much open to the Wind. By which Remedy Riverius observed, that one who was extreemly Hectical, was cured in a Months time. The Air in a

Chamber may be altered by Sprinkling the Flowers of cooling Herbs with Spring-water. The Air of one Country or place is worse than that of another; so in the Precincts of *Hanover* this Distemper is Endemical and peculiar to the place, with Exulceration of the Lungs; for the Rigid, Inflexible and sharp Particles of the Air, easily entring into the Mass of the Blood and altering it, render it Corrosive, by which the little Bladders of the Lungs being Eroded they become Exulcerated.

Let the Food be of such things as sweeten the Blood, of good Juice and easie Digestion, or Nourishment, as Broths of Hens, Crabs, Capons, Veal, with Yolkes of Eggs and cleansed Barley. Veal, Pig, Pheasant, Partridge or young Hare, &c. are good. *Panada's*, all things made of Barley, Oates, or Rice with the Cold Seeds, are also proper. Divers Garden Herbs, as Purslain, Endive, Sorrel, and Borrage, and such like opening Roots, if Boyl'd in Broths. In this Disease also Fish that live in Rocky, or Stony places are excellent. As for Fruit, Apples, Pears, Prunes, Cherries, Grapes, Figs prepared and boyled with Honey are very good. They that have a stronger Stomach may use more Solid and Viscous Nourishment, as Calves-feet, the Flesh of Snails, Crabs, Tortoises, Frogs and Cockles in their Broths. To the more delicate we give the Pulp or Flesh of Capons, and Partridges, Almonds, Pine-Nuts, and Sweet-Meats, and particularly Gellies. The following one is very good,

Tak;

Take of the fresh Gelly of Harts-horn three Drachms, pour to it two Pints and a half of Spring-water, of Red Wine half an Ounce. Digest it for twelve Hours in a Glazed Vessel, afterwards add of the Root of *Scorzonera* half an Ounce, the Root of Succory two Drachms, Endive Leaves a handful, Raisins Skinned three Ounces. Boyl it a little more than half away, strain it and add of the Confection of Alkermes a Drachm, place it in a Cool place, in a cold Vessel, and it will become a Gelly.

All things made of Milk are here very proper.

Let the *Drink* be Barley-water, or a clear Drink made of Opening, Roots and Barks; or, which is better, a Decoction of *China* with Raisins, as also Emulsions. All strong Spirituous Drinks are dangerous, and many times cause this Disease, yet small *Rhenish* or *Mosel-Wine*, with a little Water mixt in it, may be allowed.

Let their *Sleep* and *Exercise* be moderate.

To keep the *Body* open, now and then a Glyster of Mollifying Herbs will be very proper, and you must promote the Natural Evacuations, but as for others, have a care of them; as the voiding of Blood, &c.

Let the *Mind* be at ease and Chearful. Sadness and Grief are very destructive here, and have often caused a Hectick. Let the Patient forbear Venery, which waists and drys the Body much.

§. 12. Pharmaceutick Cure.

THESE things premised, let us come to the *Pharmacy*, or Medicines here to be used, which according to the *Galenists* is thus;

Those, who to correct a dry and hot Indisposition, commend Coolers, and Moisteners, are of opinion, that in this Case those moistening things are restorative, therefore they prefer them to Coolers, which given in Excess, may even stifle the Natural Heat. Amongst Moisteners and Coolers are reckoned the Flowers of Water-lily, Roses, Bugloss, Borrage, Endive, Lettuce, Sorrel, Succory, the four cold Seeds, greater and less, of which they make up several Compositions. At the Beginning, if the first Region be foul, they prescribe some slight Purgés, as *Manna*, *Cassia*, Syrup of Roses Solutive, and if the Patient is strong enough, sometimes an Infusion of Rhubarb, with Tamarinds: As for Alteratives they reduce them into the form of Juleps, Broths, and Emulsions, which see amongst Practitioners.

Baths, which, as they say, are both cooling and moistening, they prefer beyond all other Remedies, in which they put Mallows, Violet Leaves and Bears Breech, to render it more moist. *Zacutus Lusitanus obs. 35. l. 3. praxis admiranda*, commends extreamly a Bath of Water and Oyl. Some also are for a Bath of pure Milk, and after Bathing they anoint the Body with Oyl of Lilies, Violets or Roses, and apply outwardly cooling and moistening Medicines to the Heart, Breast, Liver and Kidneys.

§. 13.

Paracelsus will cure an Hectick in a Months time by his Secrets; yet never tells us what those Secrets are. Helmont follows him as a faithful Disciple or Scholar.

§. 14.

Sylvius, according to the different Causes that produce this Hectick, proposeth different Methods; yet in general, by reason of the Clamminess, and Glutinosity of all the Humours, he adviseth the more kind Aromatick Medicines, and Oily Volatil Salts, because they cut and correct the Humors, and reduce them to their first purity.

He commendeth also Asses-milk, Womans-milk, Goats, or Cows-milk taken warm.

As for fixing a Methodical Cure according to the Diversity of Humors, you may establish it from what hath been already said. He observes well also, that if the Hectick proceeds from any Inflammations, Apostems or Fistulous Ulcers, it is scarce cured without administering at the same time Remedies appropriated to those Distempers. Amongst Consolidating Medicines, he praiseth the anisated Balsam of Sulphur, as also the more fixed Medicines of Antimony, but not any thing that promotes Vomits or Stools. He commends also a Vulnerary Decoction.

§. 15.

IN Our Judgment this Disease hath these following Indications. First, That the Blood be sweetened, and corrected; for then there would be no longer Vexation of the Animal Spirits, but all things would move pleasantly. Secondly, That those Diseases be cured, from whence the Hectick proceeds; or which are continually a-causing some Acrimony to be mixt with the Blood. Thirdly, That the Symptoms that attend the Hectick be mitigated.

For those things which correct, and moderate the Sharpness of the Blood, are most proper here; as the milder Volatil Salts, and earthy Substances, provided they contain in them a great Quantity of a pleasant gummous Volatil Salt; as Crabs-eyes, Unicorn's-horn, Pearl, Harts-horn, Bone of a Stags Heart, Bole-Armoniack, *Terra sigillata*, *Lap. Percarum*, *Asellorum*, &c. Amongst Minerals, you may use these; viz. *Antimonium Diaphoreticum*, *Bezoarticum Mineral. Solare*, *Lunare*, *Joviale*, *Specificum Stomachicum*; as also that famous Anti-hectick of *Poterius*, of which I have as yet seen but little Success; and if it hath any Virtue, it is in concentrating the Acid, which Crabs-eyes will do very well. The kinder sort of Medicines, as Turpentine, Rosin of the Larch-tree, *Gum. Ammoniacum*, and *Galbanum*, are used with great Success, because they have something in them that is glutinous, and gummy.

Cooling Medicines, so called by the Ancients, are not profitable, as cooling, but, as sweet'ning, opening and tempering. First, All Watery Medicines, in which there

is any Volatil Salt, are profitable, such as the common Coolers, which cut, and attenuate; as Succory-roots, or the whole Succory, Dandelion, Sorrel, Leaves of Bugloss and its Flowers, also the Flowers of Violets, Fumitory, Sorrel, &c. Secondly, all watery, spirituous, and sweet things, which are void of Sharpness, are good; as French, Spanish, and Canary Wines, Meed and such like, in respect they correct the sharpness of the Blood, and fix and pacify the Spirits; for which Medicines of Lead also are excellent. Here also the lighter and more gentle Antiscorbuticks, and Diaphoreticks, are proper, some forms of which we shall set down here. I have known several recovered with the following destilled Anti-hectick. I would not have the heap of Simples that enter its Composition deter the Reader.

Take a Capon with the Entrails out, boyl it in an earthen Pot, the Bones being bruised, with eight Pints of Broth, infuse in it of the shavings of Sassafras-wood half a Drachm, Man's Skull, Elk's-horn of each three Drachms, China-root an Ounce, Tincture of Scabious, Liver-wort, Fluellin, Rosemary, Flowers of Peony, Line tree, Scabious, Colts-foot, lesser Daisy of each half a handful, *Rasur. subtil. Visc. Pyfor.* an Ounce and a half, the Crum of White-bread, old Conserve of Roses of each three Ounces, one Fox's-Lungs took hot out of the Body, Hens-livers, cleansed Snails of each Ten, Frogs fifteen, the juice of Brook-lime a Pint, or in Winter-time instead of the juice two

Pints of the Destill'd Water of the same, which may be sweetened with pearled Sugar.

With which destilled Liquor you may make Emulsions, and every day take them after the following Manner.

Take Green Melon seeds two Drachms, *Aq. Anti-hectica nost.* six Ounces, of pearled Sugar a sufficient Quantity. Give this for one Dose about the Evening. Or,

Take Pine-nuts two Drachms, Hemp-seed a Scruple, *Aq. Anti-hectica nost.* three Ounces. Make an Emulsion, to which add of Milk of Sulphur half a Scruple, of rich Cordial Powder eleven Grains, pearled Sugar a Drachm. Mix them for one Dose.

It is better to give your Medicines in a Liquid than a Solid Form. Let the Diet be as it is mentioned before.

Amongst Alteratives, I much approve of Raisins, which not only moderate or correct, but also nourish. Boyl them with the Roots of Succory, China, or *Scorzoner*a, or infuse them a whole Night, strain them the next Morning after a little boyling, and so give it. This is an Experiment of the great *Et-mullerus*.

That excessive Heat in the Palms of the Hand, and bottom of the Feet, is best removed by Watery Medicines, as Juleps of Barley-water, Baum, Borrage, Lettuce, Succory with a little Cinnamon, Bugloss, Rasp-berries, sweet Pomegranate, and such like. Medicines also that have a pleasant sharpness, are

are good in this Case, as a Tincture of a sufficient Quantity of May-dew with Violet-Flowers, the lesser Daisies, Borrage and Bugloss. Some Spoonfuls of it may be given, twice or thrice a day.

Or,

Take of *Ros Vitrioli*, several times Cohobated from its own proper *Caput Mortuum*, six Ounces. Or,

Take of *Liquor Terræ foliat. tartar.* two Drachms, of which may be given twenty drops often in a day, which in this case is an excellent Remedy. Or,

Take of *Aq. Anti-hectica Poterii*, or *Lap. Cancror.* a Scruple, *Mag. Saturni* half a Scruple. Mix them, and give it at one Dose. Or,

Take *Species Diasaturni*, *Nitrum Vitriolatum* of each half a Drachm.

All nitrous Medicines are generally good in this case, as *Sal Prunellæ*, or Medicines prepared of Lead, as also Camphore in a small Dose mixt with other things, for they quench the Thirst, for which also several gargling Medicines are prescribed.

The fore-mention'd Medicines hinder the dangerous Sweat in an Hectick, especially that noble Tincture of Vitriol, Steel and Lead, which is called *Tinctura Anti-phthifica*, as also all earthy Things, and such as gently Incrassate, as Bole-Armoniack, sealed Earth; and lastly Gellies prepared of Quinces, Rob of Barberries, as also Aluminous Medicines given sparingly.

To correct the sharpness of the Blood, all Sulphureous and Balsamical Medicines are very proper,

as *Balsamus Anglicus ex Terebinthiflos Sulphuris*, with *Elixir Proprietatis*, and Balsam of Peru. For the more delicate, these following Lozenges will be very convenient.

Take of *Flos Sulphuris Myrrhat.*

half a Drachm, Crabs-eyes prepared, Red Coral prepared, *Pulvis Haly Abb.* of each a Scruple, prepared Pearl fifteen Grains, *Lapis Prunellæ*, *Sal Armoniac.* of each half a Drachm, *Species Diam. dulc.* a Scruple, Sugar a sufficient Quantity. Make Lozenges. Or,

Take three Green Frogs dyed, prepared Pearl a Drachm, Red Coral half a Scruple. Mix it into a Powder, and give of it every Morning a Drachm, in an Emulsion of the *Aq. Anti-hectica*, continuing it for a time. Or,

Take *Pulvis Anodyn. Confortat. Anti-hectic. Poterii* of each half a Scruple. Mix it for a Dose.

Take *Species Diasaturni Mynsichti*, *Diamargaritum frigidum* of each a Drachm and a half. Mix them for several times.

If you are for an Electuary, That which follows is good.

Take of the old Conserve of Roses two Ounces, Flowers of red Poppy an Ounce, *Scabious* half an Ounce, *Species Diamargariti. frigidi.* Elk's-horn finely prepared of each two Scruples, the Anti-hectick of *Poterius* a Scruple. Make up an Electuary with a sufficient Quantity of the Syrup of Jujubes and Snails.

When these things fail us, we must come to Milk, which hath recovered many. Either the Patient may suck Womens Milk from the Teat, or Drink Asles Milk warm, which is best, or Cows Milk, which we mention'd before. In the mean while he must abstain from all other Meats. Butter of Womans Milk is very good also, and Whey mixt with a little Juice of Citron.

In the Afternoon a Bath of Fresh Water, Milk or Olives for half an hour, is very good; as also Alum-Baths.

If there comes a Fit after Eating, some Mineral Febrifuge may be taken,

All things that swallow up the Acid, are of great use here. Salt of the *Caput Mortuum* of Vitriol, and *Crocus Martis aperitivus*, are great Secrets in this Disease.

Cray-fish are very good to destroy that Salt Acrimony in the Blood.

Purging and Bleeding are here to be omitted, as dangerous; yet an Opening Glyster is profitable, provided it be not sharp, and if a fresh and green Briony Root be added.

If from the Viscidity of Humors, sticking in the first passages, there appeareth a necessity of Purging, you may mix some Sudorifics with your Purges, but in a small Quantity, for otherwise they cause mighty Obstructions.

If the Patient grows Weak, *lac. Perlarum* is very good.

When there is an Exulceration in the Bowels, Balsamick Medicines are most proper, as the Anisated Balsam of Sulphur, and all

Wound-Potions, especially my Traumatick Essence.

He that desires to obtain an easier way of sweetning Alum, let him proceed thus; Let him take powdered Alum, and destil it by a Sand-heat, then take the Phlegm, and add it to its Body, and so repeat the Destillation for seven times, till the whole Phlegm remains in its proper Body: then let him bruise the Alum thus prepared, and dissolve it into a Liquor in a moist Place *per Deliquium*. Then digest this Liquor in a Bath for twelve or fifteen days; afterwards, when by Filtration you have got a clear Liquor, coagulate it with a gentle Heat. This is not only good in all Fevers, but also in Diseases of the Breast, and especially in an Hectick. The Dose is from Ten Grains to Fifteen in a convenient Vehicle. If you cannot have this, *Manna Aluminis*, so called, is good, as we have found by repeated Experience, if it be deprived of all its sharpness by many Operations; for there is no other way so proper to stop those troublesome Night Sweats, as by the use of this Aluminous Liquor, and the Anti-phthifick Tincture, taken in the Night, and moderately season'd with some grateful Acid.

Amongst Outward Medicines we commend anointing with Man's Fat, *Unguentum refrigerans*, *rosaceum*, *resumptivum*, the Oyl of Frogs, and Butter of Womens Milk: Epithems also of Rose, Violet, Borrage, Sorrel, and Baum waters, &c. may be applyed to the Heart, and Liver. But enough of Outward Medicines, since they do but little good.

As for *Catarrhus* Fevers (which usually are in the Winter-time, and presuppose either a fulness of Humors in the Body, or the stoppage of the Pores) Bezoardicks are most proper, mixt with some Anodyne Pectorals. All preparations of Amber are good also: so likewise the Pectoral Elixir, with the Bezoardick Tincture. Venesection is dangerous, because Nature hath already thrown the Peccant Matter out of the Vessels. The Patient seldom fails here, if well looked to. It is sometimes infectious.

Amongst these Fevers is reckoned the *Purple* Fever, which is either Benign, or Malignant. This oftentimes, like the Malignant Fever, is accompanied with great Pains in the Head, and small Sweats, &c.

There is an Itching in all Parts of the Body, wherever the Signs of this Disease appear. There is also a sharp and burning Heat. It is a Disease betwixt an *Erysipelas*, and an Itch, and is distinguished from the *Spotted* Fever and Measles, by the marks in the Skin. It proceeds from sharp, salt, serous Humors in the Blood, which Nature presently flings off to the Circumference. It is often occasioned by too violent Motion. Young Children are subject to it, and Women from their moist Constitution, more than Men. Sometimes it riseth from the Retention of their Natural Purgations

after Child-birth. Amongst remote Causes are, the heat of the Liver, and excessive Venery.

Where there's no Malignity, Purging and Bleeding are a present Remedy; for Bleeding is good for those that are often troubled with an *Erysipelas*. Those things which Purge away Water, and Choler are best in this Case. As for preparing Medicines, all those which are commonly called cooling *Hepaticks*, are good, yea, they do the Cure sometimes of themselves. And generally all things that are good in the Itch, or *Erysipelas*, are also good here; as Fumitory, Elder, and all temperate Anti-scorbuticks. So also Preparations of the Woods, as their Essences, and Decoctions, *Rob Sambuci*, &c. Also all Nitrous Preparations, as *Nitrum Perlatum*, but in the Malignant *Purple* the more fixed, and milder Bezoardicks are to be given, for those Bezoardicks which are Volatil, are apt to promote the Inflammation, except the malignity be wholly to be cast off. But here you must always have regard to the foregoing cause; for Example, if it proceed from the Retention of the Child-bed-Purgations, you must give such Medicines as procure their Evacuations; amongst which are the Preparations of Myrrh, and Saffron, *Elixir Proprietat*. *Alexipharmacum Escent*. and the Spleen of an Ox. Bleeding is proper also in this Case.

C H A P. V.

Of Malignant Fevers, the Plague, Spotted Fever, Hungarian Disease, and other Epidemical Diseases.

§. I.

AMongst the Numberless Calamities that invade the Life of Man, a *Malignant* Fever is not the least, which often with a Common fury doth equally destroy whole Nations, Cities, Towns, and Families, without any Distinction of Persons. It is a Disease most notorious, or famous for its Cruelty, Malignity, and dubious Event, in respect that it invades the very Capitol of the Soul, stifling on a suddain the Animal Spirits.

We comprehend all *Pestilential* Fevers under the general Name of *Malignant* ones: The *Petechialis*, or *Spotted* Fever, which has the Name of *Puncticularis*, *Peticularis*, *Stigmatica*, *Pulicaris*, *Lenticularis* & *Purpurata*, from the Resemb'ance of its Spots to Freckles, Punctures and Bitings of Fleas, is also called *Semipestis* and *Lues Pannonica*. The *Hungarian* Fever is distinguished from the common *Spotted* Fever, by that severe Symptom; (*viz.*) a Continual and almost intolerable Pain in the Head, and Orifice of the Stomach. This Distemper is usual in

Hungary, because of the strong Wines that grow there, and the Multitude of fenny Places. *Crato* from an observation of thirty Years tells us, That the *Hungarian* Fever varied every year as to its Symptoms.

Yet since these Fevers differ according as they are more or less *Malignant*, and are all to be cured by the same Method, I thought it convenient to treat of them all in the same Chapter, under the general Name of *Malignant* Fevers.

For that is a *Malignant* Fever, which is of a cross and ill Humor, deceiving sometimes the Patient, Physician, and all those that attend him.

In a *Malignant* Fever, all things are milder, as to Infection or Destruction, than in the *Plague*, or in any *Pestilential* Fever. A *Malignant* Fever is very bad, and therefore many times is a disposition and step towards the *Plague*, though it doth not always appear with that dismal Train, as *Bubo's*, Carbuncles, Spots, Measles or small Pox: nor is it more treacherous, than strong or furious.

These Fevers have several Names, from their several Symptoms: if
Spots

Spots appear, 'tis called *Febris Petechialis*, or a spotted Fever. But if the heat is not so great, and the Pain of the Head most vehement, with a *Delirium*, Sleepiness, and Dryness of the Tongue, it is called *Febris Castrensis* or *Hungarica*. If the Symptoms are severer, and many more dye than escape in the same House or Town, and if Blew Spots appear either before, or after Death, it is called a *Pestilential* Fever; from which the Plague differs only in its *Bubo's*, and Carbuncles, a most Acute and Pernicious Disease, attended with the worst Symptoms that may be, of which we shall treat in a Chapter by it self. More severe Symptoms also usually attend the *Malignant* Fevers than any other. They both assault, and kill many at the same time, and mock at the common Remedies, so that they are of a quite different Nature from all other. They are called also *Poysonous* Fevers, because they immediately proceed from some Poysonous Particles either bred within, or coming from without. By some they have the Name of *Antimedica*, & may also be called the *Physicians Scourge*, because in this case they dare promise no certain Recovery, but are often forced themselves to fall a Sacrifice to them, as Experience informeth us, of which see the Treatise of that Noble Gentleman, *Febr. President* of our College, about *Scorzonera*. It is called the *Plague*, only in respect of Men, not when Brutes or other Animals dye suddenly. An Infection raged not many years ago in *Westphalia*, amongst the Cats, and of late seized the Cows in these parts, from which the Men were free.

§. 2. Part affected.

TO find out the Subject of these Fevers, necessity and even Method require, That the Seat, and nature of the disease be known. The Heart is said, by the Generality of Physicians, to be the Primary, and Chief Seat or Subject of a Fever, because it is the Fountain of Life, from whence a Preternatural Heat is communicated to the rest of the Body, and this they would demonstrate from the Pulse, which proceedeth from the Action of the Heart, and the pulfick Faculty, and fiery Spirits mixt with the arterious Blood.

But setting aside Prejudice, place the Seat of this Disease in the Blood: For as in Wine and Milk we observe strange disturbances, and Fermentations, why may there not happen the same in the Mass of Blood? Nor do we here exclude the Animal Spirits. The Secondary, and more General Subject of this Fever, are all the parts, in that the Disease, by help of the Arteries, invadeth the whole Body.

Thus also Helmont blames the upper Orifice of the Stomach, as infected with some contagious Poyson; and likewise the other Vessels, which serve for the Preparation, Fermentation, and Chylification of the Aliment, when these are rather to be called the Subject of the cause of this Disease, than of the Disease it self.

§. 3. Diagnostick.

THE Diagnostick Signs are, the Foundation of a true Cure, especially in this *Malignant* Fever,

Fever, where the Distemper admits of no truce, but privately devours the Patient. For it is very Treacherous. The greatest Sign that the Disease is Malignant, is, when it begins with a sudden failing of the strength, frequent Shivering, and very bad Nights, and is attended with Pains of the Back, and Loys, and Itchings, which are fore-runners of those Malignant Spots, which proceed from the corrupted *Serum* restagnating there. In the *Plague* there is always a Fear, or Pusillanimity, from whence the Pulse grows small, frequent, and unequal, and there is also a Palpitation of the Heart, Fainting, or *Syncope*, and the greatest Shortness of Breath. Afterwards commonly there follows a most violent Head-ach, Phrensy, and Noise in the Ears. The Urine is like that of those that are well, and often inclining to be Red. There is also Thirst, Watchfulness, *Vertigo's*, which are followed by Phrensies, Pleursies, Convulsions, Epilepsies and many other Mischiefs. In some the Spots are red, in others they are very small, and in others of a quite different Nature. So from the Diversity of the Cause there arise diverse Symptoms. In the *Plague* there appear Carbuncles and *Bubo's*. Many Sleep profoundly; in some few there is a Gnashing of the Teeth, they are also troubled with a pain at the Heart, Vomiting, Loss of Appetite, Thirst; and in the *Plague* they are Molested with a Pleurisy, Lientery with Worms, a stinking Flux and Bloody Flux. In some I have observed Deafness. Others are almost Blind, and Weep involuntarily; also they have a stretching or gaping

of the Eye-lids, especially in Sleep; there is likewise a Bleeding at the Nose. Some have their Tongue enflamed, which turns black, as also do the Teeth; some are troubled with a Hiccough, which is the worst Sign that may be; and to be short, all the Faculties of the Body are disturbed, and all the Actions perverted. There are also very often, burnings in the Stomach, and heaviness about the Heart. In opening of the Body of one that dyed of the *Plague*, I found all things in the Entrails blackish, and gangreened. There arise also cold and stinking Sweats, especially about the Fore-head. At last the Poyson of the Distemper discovers it self more manifestly by Swellings behind the Ears, under the Armpits, in the Groin and Knees, and in other places, by Black, Yellow, Red Spots, and Black Pustules, Carbuncles, and *Bubo's*. Here I cannot omit a passage that happened at *Francorhalium* in the upper *Palatinate*, Anno 1666. When the *Plague* raged with great Violence, a Servant-Maid had a Carbuncle on the Top of her ring-finger, which either, because she was Delirious, or through the Violence of Pain, she cut off with a Chopping-Knife, yet notwithstanding her whole Hand was Mortified the next Day. For *Bubo's* and Carbuncles vex, and torment the Patient even like hot Iron, nay, more than is credible. It is not necessary, that all these Signs appear in every one that is Sick; but sometimes these, sometimes others, sometimes more, sometimes fewer, according to the Nature, and Disposition of the Subjects, and Venom or Poyson of the Disease. In the *Hungarian* Fever,

Fever, there is a most violent Head-ach, joyned with a pain in the Orifice of the Stomach.

§. 4. Cause.

IN order to the happy Cure of Diseases, there is no Physician of any Sense, but asserts the knowledge of *Causes* to be very necessary. Therefore first of all let us see the opinion of the *Galenists* as to the cause of *Pestilential* Fevers. They make them to be occasioned by a Putrefaction and Malignant Corruption of the Humors in the *Vena Cava*: which Malignity they judge to be less in *Pestilential* Fevers, than in the *Pestilence* or *Plague* it self. For they will have the same Causes in a *Malignant* and *Pestilential* Fever, as in the *Plague*, but in a less degree; hence *Fracastorius* makes the *Plague* to consist in a profound and fordid Putrefaction.

They condemn particularly, and chiefly here, the Air, Climate, Manner of Living, and Contagion. As for *Malignant* Fevers, they deduce them from a morbid Disposition of Body, contracted by ill Meat or a bad Diet, which is very subject to putrefy and corrupt. As for the *Plague*, they derive it from the common Causes, to wit, the ill Constitution of the Air, and the Influence of the Planets. *Kircherus* and *Langius* make it to consist in a Verminous sort of Putrefaction, or Corruption: *Simon Paulus* a kind of Volatil Salt, that by Fermentation creates that great disorder in the Mass of Blood.

§. 5.

HElmont, who thinks the Principal Nest of all Fevers to be in the first Region, saith, *Chap. 17. Sect. 10.* That the Seat of *Malignant* Camp-Fevers, is very strange and unusual, as also the spreading of them, whilst they have their Original from certain Vapours, arising from marshy Grounds, Minerals, ill Smoaks, Hospital-scents, and corrupt Stinks, which passing through the Lungs into the Breast, assault the convex Superficies of the Stomach, leaving behind a Malignancy. He derives the *Pestilence* from an Acid in the Veins, and is of Opinion, That the *Plague* is the quickest and severest Fever, and fluctuates in the *Archeus* like Poyson. And he saith, A *Malignant* Fever alone always draws something of Corruption to it about the Orifice of the Stomach; and that those Fevers are worse, whose Seat is rather on the outside of the Stomach, than on the inside, because that part is in a manner out of the reach of Remedies. And therefore the Camp-Fevers, and those that are Epidemical, are more troublesome than others, and are for the most part without Thirst.

For these Fevers, saith he, only infect from without, corrupting the last Nutriment of the Stomach, because as long as there is Life in the Body, there is Expiration, and Perspiration. For he hath Demonstrated that the Lungs, and *Diaphragma* are both full of Pores, through which those Malignant Vapours we suck in with our Breath, seize the Stomach, and often

ten corrupt the Nourishment thereof. For he distinguisheth the *Plague* from other Fevers, which has not its Seat in a Febrile Filth, or in the Blood, but affects the Vital Spirits with its ill Scent, which together with the Air we suck in, passeth immediately through the Pores of the *Diaphragma* to the Stomach, and not being able to go any further, leaves there its fatal Impression, from whence proceed Vomits, Head-achs, dead Sleeps, Phrensies, Swoonings, and the like.

Helmont allows of two Causes in Nature, and no more; (*viz.*) Matter and the Efficient Cause: The Efficient Cause in the *Plague* he calls *Archæus*, *Vulcanus* or *Semen*. The matter of it, he says, is a wild, irregular Spirit tinged with Poyson. Which he considers either as it comes from without, and is wholly and perfectly Pestiferous, exhaling from some Person or Carcass that is Pestilential, or from some nasty, infected place or thing: or else as it proceeds from some ill Vapor of the Earth, which being drawn in by the Lungs, grows by degrees of Fermentation Pestilential. The *Plague* therefore is either wholly generated within, without any foreign Assistance, or is altogether from without. So that according to our Author, it is an *Ens Naturæ*, subsisting in us of it self, and consisting of its own Matter, Form and Properties. In another place he calleth the *Plague*, *Venenum Terroris*, and proves that its primitive Seat is in the Hypochondries. He will not have the Matter of it to be any solid Body, or visible Liquor, and therefore no conspicuous Putrefaction, but a *Gas* separated

and degenerated from the substance of the *Archæus*. For he affirms that whatever visible Corruption appears in the *Plague*, is not so much the matter from whence it proceeds, as the matter in which it resides: whence he asserts, that Carbuncles, *Bubo's*, and Escars, are not the Original Matter of the *Plague*, but rather the Effects of it: He saith, That the remote Cause of this Disease is a putrefyed Air or *Gas*; And, also that that which comes by Contact, although it be milder than that which ariseth from an Universal Cause, yet is for the most part Fatal, because in this the *Archæus* that has its Residence in the Member, is destroyed, from whence follows a Pestilential Gangreen of the Part. For the rest Consult the Author himself.

§. 6.

WHILE in all Malignant Pestilential Fevers, the *Plague*, Small Pox and Measles, holds, That the Blood is tainted with some Poysonous Infection, and is therefore subject to various Coagulations and Corruptions; in which Malignant Fevers, not only the Spirit and Sulphur, as in *Putrid* Fevers, grow irregular and troublesome, causing a mighty Effervescency, but also the very Texture of the Blood is dissolved, and its Liquor divided into several parts, from whence proceed those horrible Symptoms, not without danger of Life. He examineth also the Causes of many Poysons, and holds, That the Subjects in which the Infection more immediately setteth, are two; (*viz.*) the

the Animal Spirits, and Blood in the Vessels and Heart. He plainly shews how they are hurt by those Poysons. He saith, There are some Poysons which dissolve the Blood, and too much precipitate the Serum, as some stronger Purgers do. And that there are other Poysons again more dangerous, which congeal the Blood, and by destroying of its Texture corrupt it, inducing first a Congelation, and then a Putrefaction.

As to the Animal Spirits, which are very fine and subtle, if any thing of the Nature of Poyson lights amongst them, which consists of such fierce Particles, that inducing a great Effervescency upon the Nervous Liquor, the most Spirituous Portion of it is either driven up and down, or altogether vanisheth, whilst the rest of the Nervous Juice by some astringent force is fixed, or by an Ebullition grows unruly; from whence follow those Distempers of the Brain and Nervous Parts, (*i. e.*) Convulsion, Trembling, Shivering, Stupefaction, Palsies, and other severer Symptoms.

Our Author describes the Plague thus, (*viz.*) *A Contagious Epidemical Distemper, very fatal to Mankind, proceeding at first from Infection in the Air, and afterwards propagated by Contagion, which privately and lurkingly seizeth upon Men, extinguisheth the Animal Spirits, coagulates the Blood, mortifies the Solid Parts, and is attended with Spots, Bubo's, and Carbuncles, and other horrible Symptoms that threaten the Sick Person with Death.*

And he differenceth the Plague

thus; in that it is sometimes peculiar to this or that Climate, sometimes it rageth in several places at the same time, sometimes it is complicated with other Symptoms, and Distempers, and sometimes it is milder and less destructive than at other times.

The cause of this Pestilential Disease, in the Opinion of our Author, is the Coagulation of the Blood and Nervous Juice, like Milk turn'd sowre, or that has had some Acid pour'd upon it, whence the parts of it, being mightily infected soon curdle, and, like Blood extravasated, grow black and corrupted; whence the Motion of the Blood in the Vessels and in the Heart is stopped, and by reason of its Fermentation becomes more coagulated: Now whatsoever by Congelation is curdled, unless it be immediately evacuated, by stopping the Circulation brings Death on the Patient, and being driven to the Circumference of the Body, there sticketh betwixt the narrow passage of the Vessels, and either being altogether destitute of Spirits, as if it were Planet-struck, by its Mortification there, causeth Black or Purple Spots; or from the Salt, and Sulphur exalted by the Pestilential Ferment, and becoming turbulent, causeth several sorts of Swellings.

Our most famous Author describes a Carbuncle after the following manner. *A Carbuncle (says he) is a fiery hot Swelling, with abundance of little sharp and burning Pimples about it, and a most violent Pain, which discovering it self indifferently in several places is not Suppurated, but spreading more in Circumference*

cumference, burneth the Flesh and eats away whole pieces of it, leaving behind it a hollow Ulcer, as if a Caustick had been laid to it.

So also he learnedly treats of the Nature, and Original of Carbuncles, Bubo's, Purple Spots, &c. in his Chapter of the Pestilence.

He saith, *Pestilential* and *Malignant* Fevers differ not only from the *Plague*, but from one another, according to the Degrees of Contagion, and Fatality. The *Plague* is a Disease that is infectious in the highest degree; a *Pestilential* Fever generally rageth with less Infection, and less Mortality. When there is only a suspicion of Infection, and the *Crisis* only more uncertain than in common Fevers, it passeth for a *Malignant* Fever, which is wont to seize several Persons in the same Parts or Country, after the same manner, and is in appearance like a *Putrid* Fever, and has almost the same *Crisis*. But if many Persons dye, and those who converse with the Sick, are infected with the same Disease, and if it spreadeth through whole Towns or Cities, it is then called a *Pestilential* Fever.

Our Author reckons *Pestilential* and *Malignant* Fevers amongst the number of *Continual* Fevers, and lays the fault upon the Sulphureous part of the Blood, which he saith is heated and fired into a Fever, and in these sort of Fevers he observeth an extraordinary Malignity joyned with the Effervescency.

But he thinks the Effervescency is performed after the following manner: The Sulphureous part of

the Blood growing extraordinary hot, by its heat is set on Fire; and whilst it burns, it heaps up a great deal of adust Matter in the Blood, from the subduing, and secluding of which, the State and *Crisis* do depend, as in other Fevers: Moreover the Blood being tainted with a Poysonous Infection, by reason of its malignant Ferment, begins to coagulate, and putrefy: and from some congeal'd Portions of it, there arise Swooning Fits, Faintness, Spots, and Marks, &c.

So according to him, the Contagion is Propagated by certain *Effluvium's* that come from the sick Persons Body, from which Contagion or Infection according to the degree, or force thereof, the Fever is called either *Pestilential*, or *Malignant*.

When a Malignant, and Poysonous Ferment is joyned with the Preternatural Effervescency of the Blood, there do not only succeed Coagulations and a Disposition towards Putrefaction in the Mass thereof, but also the Nervous Juice is infected, by which means it being grown unfit for the Brain, and the Government of the Animal Spirits, there follows a great disorder, and irregularity of them. Whence in these Fevers not only Spots and Pimples rise; but also Madness, Phrensies, dead Sleeps, Trembling of Joynts, Cramps and Convulsions succeed. Hence our Author in some certain years hath observed several *Malignant* Fevers, which without any appearance of Marks, have chiefly exercised their Virulency or Fury on the *Genus Nervosum*.

Our Author is of opinion, that the

the Blood impregnated with these Poysonous Particles, boyls up of its own accord, which Particles, he conceives, may either pre-exist in the Mass of Blood, or be taken in with the Air: If they proceed from corrupted Air, the Disease is General and more Popular; if from a particular indisposition of the Body, then there is but here and there one that is sick of this Disease.

Malignant and *Pestilential* Fevers are sometimes observed with one particular Symptom, sometimes they are accompanied with a Quinzy, sometimes with a Pleurisy, often with an Inflammation of the Lungs, sometimes with a Dysentery, &c. which as our Author observeth, happeneth not because the Infection by some peculiar Quality seizeth on this, or that part of the Body, for it doth equally infect the whole Mass of Blood, whence a *Crisis* is to be endeavoured in all parts alike. For when the Blood without any Malignity, by reason of its Coagulation, or any other causes does extravasate, the usual places in which it is apt to rest, are the Throat, Lungs, *Pleura*, and the Interstices. Wherefore it is no wonder, that, when in a Malignant Cause there follows a Coagulation and Extravasation, the Disease should fix it self in its Natural Subject.

§. 8.

Spiritus derives all *Malignant* and *Pestilential* Fevers from some Poysonous Particles communicated to the Blood, which are either taken in with the Air by the Lungs, or by the Pores of the Bo-

dy, or with Food at the Mouth. And these Particles, saith he, cause *Burning* and *Malignant Fevers*, *Dysenteries*, and the Plague it self.

In almost all *Malignant* Fevers, he hath observed that the Blood is more fluid than at other times, which he saith happens in *Burning* Fevers, the Plague, and sometimes in the *Dysentery*, (*viz.*) as often as the Choler or Bile of it self is corrupted, from whose Excessive Acrimony, or Sharpness Fevers proceed, and indeed *Burning* Fevers; a certain sharp Acid also concurring at the same time, and stirring up a *Malignant Effervescency* in the lesser Intestines, from whence is occasioned a dreadful *Dysentery*. For when, as he saith, there are but two Sharps in Nature, a Lixivious Saline, and an Acid, as often as they meet, and clash with each other, they constitute a third or middle Substance that may be less sharp because broken; yet with a stronger Fire, it may become at last more sharp, and so much more dangerous as more difficult to be mitigated, and from its Volatility and Subtilty causing great, and sometimes deadly Changes or Alterations in us. Thence he is of Opinion that *Malignant* and *Epidemical* Fevers have their Rise from corrupt Air. He saith all Poysons derive their Force, and Efficacy from one of those two Sharps.

From the Collation of Symptoms he judgeth the cause of *Malignant* Fevers to be for the most part, if not always, a Volatil sharp Salt, which by concentrating the subacid Liquor of the Glandules, renders it weak and sluggish,
from

from whence the Natural Consistency of the Blood is diminished, and so its Rarefaction prevented, and very often the Secretion of the Animal Spirits hindered. According therefore as that Volatil Salt, sharp, or not sharp, is either carried by Inspiration into the Lungs, and thence into the Mass of Blood; or with the Nourishment, and Spittle descendeth into the Stomach; or, as we said before, passeth in at the Pores of the Body; hereupon saith he, doth the difference of Symptoms in Malignant Fevers depend, as also upon the Humors that abound in each Body. He deduceth the weak and languishing Pulse from the Inconsistency of the Blood, and the suddain and unexpected Death, from the stifling and extinguishing of the Vital Flame.

Therefore according to him the cause of all Malignant Fevers comes from abroad, and never from the spontaneous corrupting of Humors in the Body. Thus he will have all Malignity to consist in a volatil, sharp Salt. He also maketh the cause of the Plague, to be a too great Fluidity of the Blood, which is caused by a sharp Volatil Salt, from which Volatil Salt he deduceth, in his *second Tractate of the Plague*, all the *Phænomena* that attend it, which the Reader may peruse, if he please.

§. 8.

W^e with *Willis*, before we come to the thing it self, will in short treat of the Nature of Poysons, seeing that from the knowledge of them, we may easily learn the Nature of the Plague, and all Epidemical

and Malignant Fevers, because their force, and Efficacy consisteth in the Solution of Continuity, whether they act upon the Body without, or exercise their Tyranny within. Therefore those Antidotes, as it appears to any Learned Man, work not by an Occult, but Manifest Quality; nay, there is not one Antidote of whose effect, or operation a probable Reason cannot be given. For we reckon all Antidotes in the number of those Medicines, that attenuate, cut, volatilize, absorb, and take off the Edge of sharp things, which are administered according to the nature of the Poyson; whether it consist in a certain kind of Volatil, Glewy Substance, and sharp coagulatory Salt that is contagious; or in certain sharp cutting Particles, that are apt to cause a Mortification in the Part, to the utter Subversion of the Animal Spirits. Hence follow disturbances of the Mind, Phrensies, Madness, Frigidity of the parts, and whole Body, Swellings, and Blewness, Erosions and Eating away of the Flesh, and such like Symptoms as arise from Poysons. Therefore the Particles of the Salts being grown thinner and lighter by heat, are carried upwards through the Air, and often wandring very far, in the end hit against hard Walls, and thereby grow sharp at the Points and Sides like Daggers. Many of these Saline Particles being joyned together, become Corrosive, which, according to the Diversity of the Matter with which they are joyned, compose in the Microcosm several Minerals; as Antimony, Arsenick, Cobalt; and these Particles being

ing rarefied by the heat of the Body, fly up and down and by breaking the Natural Texture, melt the whole Mass of Blood, attenuating it more than what is necessary to the disturbance of the Animal Spirits, and creating of Nauseousness, Vomiting, Gripes, Gnawings, Fainting-fits, Tremblings, Convulsions, Madness and other horrible Symptoms.

These things being granted, we may easily shew, how these Malignant Spirits, rising from the Bowels of the Earth, are communicated to the Air, and grow so destructive to Mankind. To clear which, you are to observe, that these thin Vapours are more or less abundant, according to the difference of Summers. Therefore if the heat of the Sun is so excessive, that these sharp, and Volatil Spirits or Poysonous *Effluvia*'s, (which through defect of heat, could not be elevated to the outward Surface of the Earth) are by a greater Rarefaction grown active, and nimble, they may get not only above the Surface of the Earth, but also wander into distant Countries. And the greater hollownes or gapings of the Earth there are, either from the secret passages of Waters, or from Earth-quakes, the greater plenty will there be of Infections and Pestilential Exhalations. Which *Miasmata*, or contagious Particles, as experience too much informeth us, also may arise from standing Pools, dark Deins, and filthy Holes; as also from loathsome Carcases, whence proceed the *Plague* and *Malignant Fevers*. Thus in Camps amongst Souldiers, this Malignant Poyson is of-

ten occasioned through Nastiness, and Filth, and the Plenty and Various Colluctancy of *Effluvia*. Sometimes through Famine, and the Consequents thereof, our Bodies are more disposed to receive this Infection. And to come closer to the business; we must observe, that the *Plague*, as well as *Malignant Fevers* which only differ in degree, take their Source from the Air, which is as well the Fountain of Death, as of Life and Health.

This Air is that which supports our Breath, which with our Spittle passeth to the Stomach, enters the Pores, and being communicated to the Blood, and its *Serum*, is carried by Circulation to every part. From hence it appeareth how the Air, impregnated with these sharp and Volatil Salts, infects the Humors of the Body, especially the Blood, to the utter Subversion of the Animal Spirits, and Destruction of the whole Body. For those sharp Particles, being joyned with the Spittle, Chyle and Choler, (that is much like it) grow sharper; just as Sublimated Mercury, and *Aqua Stygia*, when put together, are more and more by degrees exasperated. By this it appeareth in what the Nature of Malignant Fevers consisteth, which Spring from a mutual Separation of the Particles of Blood from one another; but in a lesser degree than in the *Plague*, wherein there is the greatest Separation and Destruction of the Particles: For whilst the Texture of the Blood is violated, the Animal Spirits are in an uproar, flying here, and there in

in confusion, and causing great Disturbances, as well in the Brain as elsewhere.

Some distinguish the *Plague* from a *Pestilential* Fever, but they differ only in degree; for they both proceed from the disturbance in the Blood; yet there may be a very great Fever, which from the suddain failing of strength, may be like the *Plague*. Malignity therefore is nothing else but a separation of the Particles of Blood from each other, which in this Case is not easily remedied. For there are several degrees of Separation, as it appears in Milk, which is one way separated for making of Cheese, another for making of Butter, and another way when it turns Sowre. Thus it appears also in the mixture of Blood, with the Spirit of Nitre, Vitriol and distilled Vinegar, and sublimate Mercury. The Pestilential Poyson raging up, and down, with its sharp volatile corrosive, and sulphureous saline Parts, cuts off the Fibres, and lesser Branches of the Blood, which being done, the other, grown heavy, and not easie to be moved, are jumbled into one heterogeneous Body, which is unfit for Circulation. The Sulphur is also very much corrupted, as it appears by the Stench, which in the time of the *Plague* flies about with its fiery Darts; whence *Borellus* c. 1. vol. 74. Speaks of a certain *Ermite* that could distinguish the *Plague* by its smell. The angry Enemy thus entred, and getting the better, seizeth on the more noble Parts, as the Heart, Brain, and Stomach, and other Parts, and placing a forreign Guard 'ore those Cittelds of Life, is not only content to

cause Syncope's, Tremblings, and even mortal Anguishments in those parts, but to make Excursions even to the royal Palace of Reason, committing strange violences there on the cheif Governours of Life, the Animal Spirits, tormenting them with intolerable Thirst, most violent Head-ach, Watchings, Madness, Phrensies, Convulsions, &c. and sometimes making an Excursion to the Superficies, seizeth on the greater Glandules, and causeth Carbuncles, Bubo's, and blew Spots, to the final ruin and subversion of the whole Body. Here by the way you are to observe that it is call'd a Carbuncle, because it is black like a Coal, and is found likewise in other parts as well fleshy as fibrous and glandulous. Sometimes also it breaketh forth in the inward parts, sometimes it is to be seen within the Tunicles of the Stomach, as well inwardly as outwardly, which hath been often observed by *Bartholin* and *Helmont*, and then there follow mighty Vomittings from corrupt Blood, that is coagulated in several places,

In the *Plague* there are Bubo's also in the Glandulous parts, because the sharp Particles of the Blood pass through the fleshy Parts; now the Pores of the Glandules being little, they stick there, and create Bubo's; but they proceed for the most part from the *Lympha* being vitiated and turned sharp.

There are Particles of a certain Figure, which are driven by the heat, and Ebullition of the Blood into the Pores of the membranous parts, which Pores if they do not wholly fill up, but leave room for a thin subtil Matter to pass through, they

they cause a Swelling, heat and redness of the part, as we see in an Inflammation, which in the Brain, or its Tunicles, causes Madness, in the Jaws or Throat a Quinsy, in the Breast a Pleurisy, in the Intestines a Dysentery.

The Astrologers fly to the determinate Positions of the Stars, and to the Incompatibilities of Oppositions, and Malignant Conjunctions; but what virtue the Influence of the Stars have, I could never yet conceive, or how they should work upon inferiour Bodies, unless by a Motion of Light, and Heat. For the heat which proceedeth from the Planets or Stars, is of it self but Weak, without the assistance of the Sun, and is a manner always in the same degree; so that to ascribe so great a change in the Bowels of the Earth, or in the Air, to them, is not warrantable by humane Reason. For the Stars are given to us only for to shew us the distinction of Times, Days, and Years, which as *Helmont* saith, are but Reliques of Paganism. Hence the most famous Astrologers, and Mathematicians in the World, as *Copernicus*, *Kepler*, *Brabe*, *des Cartes*, have confuted the vain opinion of the occult Virtues of the Stars, with solid Reasons, and as a thing contrary to all Experience.

But why some are infected sooner, some later, some not at all with these Fevers, or the Plague, when there is a common Cause; proceeds from the different Texture, Motion, and Mixture of the Blood: So in one it is thinner, in another more thick.

He whose Blood is thinner, or more fluid, from the too great Sharpness, and Acrimony of the Bile, is sooner infected with this Disease than others; on the other side, he, whose Blood is well tempered with a due Acidity of the Pancreatick, or any other Juice, as the Melancholy Man, is seldom or never infected with this Disease. For the Particles of the Blood being more closely joyned together, with their united force support the Animal Spirits against the common Enemy, from whence the sharp Particles of the poyson being blunted, either remain in the Body without any danger, or pass through, where there is little Resistance. It is a true rule, and observation, That during the Plague, every disease of the Body, putting off its own Nature, degenerates into the Plague. From all which you may easily guess, that the true cause of this, as well as of Malignant Fevers, is a corrupt *Miasma*, more, or less sharp, and Volatil, disturbing and even dissolving the whole Texture of the Blood with its rigid Particles. For nothing is more fatal to the Animal Spirits, than those sharp, and Volatil Exhalations, which stifle them, even as Smoak doth Bees. The quantity of this poyson is not material, since, as *Ettmullerus*, *Chap. 3. de virtute Opii diaphoret. Sect. 13.* observeth, that it exerteth its force, and disordereth the whole Oeconomy of the Body, tho but the least quantity, provided it be actuated, and improved by the Native Heat, just as Yeast in Ale, or Leven in Bread, tho but small in substance, yet raiseth a great Fermentation,

tation, and hence it is that a Gangreen, or Mortification is so often seen in the Bowels of those that are Sick of the Plague, as well, as of Malignant Fevers; as at *Francothalium*, in the lower *Palatinate*, I saw a Woman and her Daughter opened in the same House, both the Stomachs of whom were perforated, black, and mortified. In some I have observed the *Diaphragma*, or Midriff; in others the Intestines as mortified, as if they had taken Arsenick. Almost all the *Phænomena* of this Distemper may be explained from the Dissolution of the Texture of the Blood, and the separated Particles restagnating here and there. For Salt, and that Arsenical-Volatil Sulphur is most destructive to the life of Man, threatening destruction to the Animal Spirits, a dissolution, and after that a curdling of the Mass of Blood. It is clear that the Sulphur is in fault, from the extraordinary Heat, and Effervescency, as also from those Sulphureous Darts, or burning Globes, that during the Plague are seen here and there in the Air; for to what else can we ascribe it, than to an Arsenical Sulphur, whose deadly smell hath killed many, which we and others observed, during the dismal Plague which raged, *Anno 1666*.

Kircher thinks that there are Worms in the Plague, which may consist with Our Opinion, for those Worms are composed of sharp, and Volatil Particles, which are apt to produce the same Symptoms; hence some call the Plague a seminal Disease. According to *Wedelius*, all the Humors of the Body, the *Humidum radicale*, the *Lympha*, and *Serum* are infected.

That suddain Weakness in these Diseases, sheweth that the Blood, when once infected, is unfit for Fermentation, as we may observe when Precipitate Mercury is mixed with the Blood, which kind of Contagion raged at *Francothalium* in the upper *Palatinate*, about the year, one thousand, six hundred, and sixty, which being severe, and Stubborn, stopped the Fermentation of the Blood, and destroyed many.

The Head-ach in these Diseases, proceedeth generally from those sharp particles, that fall violently on the Membranes, and disturb the Animal Spirits.

A slow, and weak Pulse, which may happen also in other Fevers, proceeds from the Fluidity or waterishness of the Blood. In some Men the Blood is hardly Blood, and at the opening of a Vein it often flows out, but is nothing else but a hard Clod, scarce penetrable with a Knife, within which there is found no fibrous Blood; therefore it is no wonder, that such Men dye within the space of twenty four hours. In this case the Pulse is weak, which is an ill sign, because it sheweth that the Blood hath scarce any Fermentation left. *D. Alprun*, a Physician of *Vienna*, affirms the Plague abounds with a Salt, and sharp volatil Sulphur; for opening a Pestilential *Bubo*, he took the Virulent Matter, and put it into a Retort with a Recipient, over the Fire; at first there ascended to the Neck of the Retort a little Water, next a more Fat and Oily matter, at length a Salt; the Fire being put out, and the Vessels separated, there came forth a wonderful

derful prodigious Stink, so that altho the Chymist was well guarded, yet as if thunder-struck, he was seized with a mighty trembling of the Joynts. Breaking then the Retort, he gave the volatil Salt of that dismal smell or stink to one that stood by, that he might tast it, nay, he held it himself upon his Tongue, which Salt he thought as sharp altogether as *Aqua Regia*. Thus at *Francothalium* I knew a Maid sick of the Plague, who shed such Tears, that like *Aqua Fortis* they did eat the very Linen, and the poor Wretch expired the next Day after. Nay, all the Symptoms that attend the Plague, and Malignant Fevers shew plainly that there is a volatil sharp, and Caustick Salt. For as soon as ever this volatil, malignant Salt is got loose, it grows more fierce, and seizeth the Animal Spirits, and committeth a general out-rage on the whole Body, causing especially Gangreens in the Guts and inward parts.

The remoter causes may be many, and they consist in the Administration of the six Non-naturals, of which we shall say something, when we come to treat of the Care to be used in Diet. Fear above all other things, is the very Mid-wife of the Pestilence, a Fomenter of Contagion, and oftentimes the Messenger of Death, on the other side a quiet Mind; and well guarded Body, are as strong Walls to keep off this fatal Enemy.

§. 9. Prognostick.

AS to the Prognosticks of Health and Death, they are here very uncertain, which *Hippocrates l. 2. Aphor. 17.* long ago acknowledged, in these Words: *The Predictions of Acute Diseases are not altogether certain.* Therefore a Physician must go on with a great deal of Caution, nor can he well judge of the state or height of the Disease without well examining and weighing the Signs.

Where many dye, the Disease is judged more dangerous. Therefore it is best to suspend your judgment, till there appear some certain Signs of either Death, or Recovery. For it is hitherto observed, That the more severe the Symptoms appear in the *Plague*, and *Malignant Fevers*, contrary to what is observed in other Diseases, the greater are the hopes of Recovery; on the other side, the milder that the Symptoms are, so much the more dangerous.

A *Malignant Fever* is of the number of *Acute Fevers*, hence it usually lasts to the Eleventh, or Fourteenth Day. These severe Symptoms denote danger, as Swooning Fits, Cold Sweats, (which yet many have had without any harm) Loosness, extraordinary Weakness; but if the Symptoms are milder, there is greater hopes of Recovery, however there is no trusting to them, for they often deceive us, like some Dogs, who the less they Bark, the worse they bite.

As to the *Vital Faculties*, a good handsome, constant and equal Pulse promiseth safety, but

if it be small, unequal, and disorderly, it sheweth great danger; especially if it be so from the beginning.

As to the *Animal* Faculties, a *Delirium*, or Madness, at the Beginning, which is not cured by Sleep, Forgetfulness, careless Lying down, unconcernedly Uncovering themselves, convulsive Motions, Tremblings and Catching at the Cloths, constant Watchings, are all ill Signs. *Epiphanius Ferdinandus* saith, that a Hiccough in Malignant Fevers is a certain sign of Death; yet I have often observed it without danger. The Eyes are to be viewed every Day, which if they discover any fierceness in them, with other ill signs, the Patient seldom escapes; as those also seldom recover, whose Eyes ake without any appearance of an Inflammation. Deafness in the Beginning is ill, about the height of the Disease it is a good sign.

Hippocrates likes not the Trembling of the Hands or Tongue, because they are often fatal Signs. A dropping at the Nose, a *Cardialgia*, or Pain at the Stomach, great Indigestion, and Inflammation of the Eyes, and if the Eye-lids are not so well closed, but that some white appears, all these things shew death at Hand.

Yet there is no sign so bad, as when the Patient catcheth at the Cloths, or folds them up, or catcheth at any Object hastily; for he that does thus, seldom escapes, as to my own Grief I sadly experienc'd in a Son of mine, who in this catching Fit fell into Convulsions, and so dyed.

For this shews a great *Delirium* or Disturbance of the Brain, and

not only an Inflammation of the *Meninges*, but also of the Coats of the Eyes, and even an incurable confusion of the Optick Spirits, whence several false objects seem to fly before the Eyes of the Patient, which he endeavours to remove; yet according to some Physicians it is not always Mortal. Women dye not so soon of the Plague as Men, by reason they have a greater quantity of *Serum*; as also those Men escape best, who have the greatest quantity of it.

If in *Malignant* Fevers Spots appear the ninth or tenth day, with Signs of Concoction, it is a good Sign; on the other side, if at the Beginning, when they break out, they look blew and black, without those Signs of Concoction, and Appearance of Strength, which discover themselves in the former case, or if they be few, or very numerous, accompanied with heaviness, and difficulty of Breathing, it is a mortal Sign. In the Plague also, the sooner the *Bubo's* and Carbuncles appear in their usual places, the better it is. *Bubo's* in any place near the heart, or Carbuncles about the Neck, or behind the Ears, predict no good success.

These deadly Fevers for the most part conclude with Convulsions, Bleeding at the Nose, or elsewhere, cold Sweats, and Faintings and Swooning Fits. Sometimes they turn into other Diseases, as I my self have observed Malignant Fevers, after the Consumption of the Animal Spirits, and weakning of the Mass of Blood, and in a Dropsie, or other Cachexies according to the various Constitution of the Blood. In all Fevers

as well Malignant as Continual, Coughing, as also a moist, and sweaty-Skin, is a good sign; for it is an Argument that there remains good store of *Serum* in the Blood, and that Nature of it self performs this Separation.

§. 10. Dietetic Cure.

HAVING explained the Nature of Malignant Fevers, and the Plague with its Causes & Signs, it is necessary we say something of its Cure, which is performed either by Diet or Pharmacy. As for the Diet, that consists in the Legitimate use of the *six Non-naturals*.

As to the *Air*, let it be temperate, not such as comes from filthy Caves or Dens, or that which ariseth from dead Carcases, in Camps or other stinking Places; for no one can expose himself to the use of such Air without manifest danger of Life: Let it be corrected with clear Fires here and there, of Juniper, Aloes, and such sweet Woods: within Doors perfumes of the Shavings of Ox-horn, or Goats-horn, Brimstone, Gun-powder, or *Acetum Bezoardicum*. In the Bed-Chamber, Balls of Brass fill'd with some Cordial Antidote, and exposed to the fire, to make an Artificial Air, are also commended; as likewise the Ringing of Bells, and frequent Discharging of Guns. But he that hath a Malignant Fever, let him shun a cold Air, for as sad Experience informeth us, all those dye, who rashly in this Case expose themselves to the cold Air.

Let their Food be very little, but of good Digestion; Chicken, Capon, or Hen-broth, with Vipers-

grafs, and other altering Herbs, are here allowed: a very spare Diet is convenient, and necessary to those that are already Sick.

But all Pot-herbs, horary Fruits, all Purgers, as also all Salt Food, and any thing that hath Sugar, Honey, or Spice in it; and whatever is corrupted, or mouldy, is to be avoided. You may season your Meat with the kinder sort of Acids, as Juice of Citrons, Quinces, Raspberry, and the like.

For *Drink*, make a Decoction of Vipers-grafs, with Harts-horn, and Citron. *Crato* in his first Book, and second Epistle, testifieth that a Drink of Harts-horn doth more good than all other Medicines: You may also use a Gelly of Harts-horn, and put into the sick Persons ordinary Drink some drops of my Cordial Tincture. Wine is not to be allowed, unless for the comforting of the Spirits, for all Spirituous things, in as much as they increase Acrimony, and render the Spirits unruly, are to be avoided; for the Sulphur being kindled by that Malignant heat, enflames the Blood. And *Neucrantz*, *Traetat. de Purpura*, as also *Hoferus*, observe, That whoever in this case have not abstained from Wine, have dyed; and I have known a Woman in a Malignant Fever, by excessive drinking of Wine, to fall into an Epilepsy. The use of Mineral-waters in this distemper is not safe. Let the Patient therefore use the foregoing Decoctions and Juleps, or Emulsions of Almonds,

As for *Sleep*, or *Watchings*, let them be moderate, and not exceed their due Course. Sleeping at the Beginning of the disease without some previous Antidote, or Bezoardick is dangerous. Fff 3 As

As for *Motion*, and *Rest* they must be moderate, lest they cause too great a Fermentation of ill Humours in the Body: yet *Rest* is more convenient for the Patient, that Perspiration being preserved, the Body may discharge it self of that gross Infection through the Pores, and the Bowels be restored to their natural Tone.

Great care is to be taken also of the *Passions of the Mind*, especially Fear, Pusillanimity, Dread, Anger, Sadness, for these have a great Influence on the Blood, which the Sick are to avoid, for the Physician's reputation and their own Healths. Let not the Patient think worse of himself than he is, nor place before his Eyes the imaginary Messengers of Death; but let him with a full hope relying on God expect better things: For the Plague, like an *Ignis fatuus*, pursues the Coward, and flies from Men of Courage.

All natural *Evacuations* and *Retentions* are to be regarded.

§. II. *Pharmaceutic Cure.*

NOW let us treat of the *Pharmaceutic Cure* of these *Malignant*, and *Pestilential* Fevers; which according to the old *Galenists* is threefold, *Curatory*, *Preservatory*, and *Vital*.

They place the Pestilence in an occult quality, that is destructive to Man, and which indicates a necessity of Antidotes, and they assert, That the cause of this Infection (whether it came in at the Mouth, or by the Pores, or any other way) is to be removed, and rooted out. Therefore if the *Plague* proceeds from Contagion, and the Body be

Plethorick, they are presently for Bleeding, even in the Beginning, before the first twelve hours are over; for when the strength of the Patient is worn out by the Malignity of the disease, they will not allow of it. The *Galenists* also admit not of Purging, unless when the first passages are foul, and then as occasion shall serve they administer Vomits. They judge that the safest way of Cure, is by Antidotes, which they will have repeated every twentifourth hour, and so to be continued for three days or more, till the force of the Infection or Poyson be dulled. They advise the Patient also not to Sleep till he hath sweat twice; and while he sweats, they give him Conserve of Roses, as also its Syrup, and the Syrup of Sorrel, juice of Citron, Pomgranates, and other Cordial waters; and to the Nostrils they hold some Aromaticks, and also sprinkle them about the Chamber.

After Sweating, if the Body be full of ill Humours, to help Nature in this Conflict, they advise the use of milder Purges, as the Syrup of Rhubarb, Tamarinds, Roses, *Pilul. Pestilential.* &c. They commend all Medicines in general that resist Putrefaction, and that are good against Malignant Fevers. So when a Fever is present, they advise only Coolers, as the Syrup of the juice of Citrons, Sorrel, Rasp-berries, Pomgranates, as also Pearls, Coral, precious Stones, &c.

Amongst Antidotes are these that follow: Treacle, Mithridate, *Diascordium Fracastorii*, *Tryphera Sarcenica*, *Electuarium de ovo*; they say also that the Herb

Herb Butter-bur is excellent to discuss the Poyson by Sweat, *Electuarium de Gemmis*, and *Lætificans Galeni*, and six hundred others, of which they make a thousand Prescriptions, too tedious to be inserted here. But seeing that Nature, say they, very often drives some part of the infectious Poyson to the Circumference, or Superficies of the Body, and raiseth there certain Carbuncles and Bubbles, if they arrive not to their due Maturity, and the Fever, with its Symptoms, abateth not, you must endeavour, as soon as may be, to expel the Poyson.

To which end they apply Vesicatories, and scarify the Skin, for the freer vent of the Poyson, and Malignant Humours. They also apply about the Anus, to the great benefit of the Patient, young Chickens, or Pigeons with the Feathers off, or a dry Toad steeped in Wine. As for the Ulcer, they say it is to be cured like other Ulcers, tho'tis not to be Consolidated till all the Poyson be Evacuated. For a Carbuncle, they say, it is to be presently Scarified, and indeed very deep, that the corrupt, malignant, stinking Humour may flow out. After that a Plaister is to be applyed, as *Emplastrum de fuligine*. Some commend here *Emplastrum de Magnete Arsenicali*. Some with a Sapphire draw a Circle round the Carbuncle, to prevent the spreading of the Poyson: and if the Carbuncle grows too big, and causeth great Pains, they are for opening a Vein just under it, for a freer passage thence of corrupt Blood: and to stifle the extraordinary heat, they make use of *Emplastrum de Cynoglossa*. But during the whole

Cure they advise the use of the milder Antidotes every day, lest the smallest Grain of Poyson should remain in the Body.

In *Pestilential* and *Malignant* Fevers they take the same course; for in this case they are puzzled where to begin first, or how the Malignity of the distemper may be taken away without increasing the Fever, or the Fever removed without any neglect of the Malignity; therefore they say, where the greatest danger is, the greatest care is to be used; hence also before the fourth day, they admit of Bleeding, Vesicatories, Purging, and Glysters. But they put the greatest confidence in Diaphoreticks, prescribing now and then between, certain Alteratives and Preparing Medicines, such as are Sorrel, *Scordium*, *Carduus Benedictus*, Vipers-grass, Citron-seed, Roots of Tormentil, Cinque-foyl, juice of Citron, English Currans, Rasp-berries, Pomgranates. Neither is the use of several Topicks to be neglected here, which you may meet with in any *Galenist*.

§. 12.

Paracelsus saith, that the Pestilence is a Disease that takes its Original from the Stars, whose Malignant Raies he accuseth; therefore every Physician should know what is the true cause and rise of every Disease. If it proceedeth from ill Diet, bad Drink, Herbs, or Fruits, it is then to be cured by some secret application of Herbs, and Roots. But if it proceedeth from Minerals, or Metals, it must be cured by some secret preparation of them: For here he admits not of

the use of Simples or any preparation of Vegetables. So where the disease proceeds from the Influence of the Heavens, the secret virtues of Metals, & Minerals signify nothing, but the Cure is to be wrought by heavenly Influence Astronomically applyed, as he teacheth *lib. de Persicaria*, and thence takes occasion to commend several Secrets.

§. 13.

Helmont, who will have the Plague to be a most acute, most violent, and quick Fever, asserts it may be cured without Bleeding or Purging, with the use only of Sudorificks, and drinking of pure Wine. He boldly adviseth the use of Treacle in Wine, or *Aqua Vitæ*. Against the Infection, he Prescribeth the use of Sudorificks mixt with Antidotes. Therefore according to him all the Hope of a successful Cure, consists in the due Extermination of the Poyson by a due Sweat.

As to Preservatives, care is to be taken, that all fear, and Terrour be banished from the Spirit of the *Archæus*: for which end pure Wine taken to a degree of Mirth is very proper, because it in a manner stifles the force of Imagination for a while: for no Man is poor or wants any thing so long as he is elevated with Wine; but it is better for Prevention, than for Cure.

However he supposeth that what may preserve from the Plague, may also cure it. One sort of Curative Remedy is that which annihilates the Pestilential Poyson, another is that which expels the Subject with the Poyson, and a third is that which takes away the Causes that dispose the Body

towards it. As for the Preservative, there is nothing more proper than that usual way of Purifying the Air according to *Hippocrates*, as in an Epidemical Plague, that the Pestilential Poyson in the Air being thus killed, and the Air it self brought to a healthy Constitution, the nourishing juice within us may not any ways be corrupted. But when that Sharp, and Malignant Poyson is once received into the Body, and as it were fixed in the *Archæus*, our Author saith, That those Medicines which are purely Preservative avail but little, by reason of the Activity of the Poyson. Therefore in the cure of this Disease, let care be taken chiefly, that the Body be actually hot, and the Pores continually open, and the Mind always cheerful and merry: For all sadness, saith he, is altogether to be avoided, not only as it is related to fear, but as it immediately produceth Corruption about the Orifice of the Stomach, which is the cause of all Sorrow. Therefore all sad, and Melancholy Objects are extreemly to be avoided, as also all Melancholy sad discourses. Amongst absolute Preservatives, according to the opinion of our Author, Charms or Amulets are best. Lastly Sudorificks expel the Plague: for they entice forth the sad and Terrified *Archæus*, which otherwise retiring inwardly as to a Tower, would raise there sadness, sighs and Malignant heaviness. He saith also, that all Sudorificks are in a manner of the same Virtue, and differ only in degrees. He praiseth also among these the drink call'd *Hippocras*, with Ginger and black Ivy-

Ivy-berries, as grateful to the Stomach. Alexetericks are to be given in strong Wine, and just after Eating, not to provoke Sweat, but to keep open the Pores. He commendeth small, and light Meals, for he saith, that in all Fevers, especially in a Plague, there is an Indigestion, therefore instead of allowing much Food, he adviseth a Draught of pure Wine.

As for Women with Child, in Child-bed, and those that have their monthly Courses, with whom this Disease is always most severe; because the *Archæus* of the Womb is in great disorder, and even overwhelm'd with sadness, he adviseth that the Womb be comforted with Oyl of Amber, or with Amber dissolved in the best Spirit of Wine that can be got, or with the Fume of the hard knots that grow on Horses Legs, let through a Sieve.

To Carbuncles and *Bubo's*, he applyeth a Toad prepared after his own way, and a Saphire Stone. For some say that if a Saphire or yellow Jacinth be applyed to the Part that is grieved one quarter of an hour, so that the place may feel the Influence of its Rayes, it will grow blew, in an hours time, which is an infallible sign of the Plague; but if otherwise, the Patient is free from the Plague. *Helmont* also commendeth Amber rubbed on the Wrists, as also a Jacinth and a Saphire used the same way.

§. 14.

Willis saith, That in the Plague, and other Contagious Fevers, Preservatives, as well as Remedies, are equally to be respected: As for the first, he recommendeth a good Diet, and

with *Helmont* Mirth, and Cheerfulness, because they fortify the *Archæus*. And in those that are Plethorick he allows of Bleeding, especially if they are used to it; for the more peaceably, and softly the Blood moveth in its Circulation, the longer 'tis before it is infected.

He believeth also that Amulets, tyed about the Neck or Wrists, have great Efficacy, and that from the mutual Sympathy of the *Effluvia*'s on both sides. Hence also he commends those Amulets which are made of Arsenick, Quick-silver, and powder of Toads, and other poysonous things.

As to Pharmacy in this case, he is for carrying off the Malignant Matter by gentle Purges, next for fortifying the Body or Spirits with Antidotes taken every day.

In the cure of this most violent Disease, our Author very seldom or never admits of Bleeding, because the stock of Blood being too much Exhausted, sweating is not so easily promoted. Therefore instead of it, he commends Scarifications, and Vesicatories; against *Bubo's*, Carbuncles, and Ulcers coming from them, he adviseth Cataplasms, Fomentations, Plaisters, and Anointings, and many other external Applications, in which he usually mixeth some poysonous things, as the Oyl, and Balsam of Arsenick.

As for our Author's Medicines in the cure of the Plague, they are either such as evacuate, and so are design'd to carry off the sharp Serum of the Blood, together with the poysonous Particles that attend it, or else they are Antidotes; for those Medicines which are more general

general in their Evacuation, and that by stirring up the Blood, prevent Coagulation, preserve the Heart (the Cittadel of life) and keep the Enemy at a distance, by driving those corrupt Humors, and poysonous Ferments from the Center to the Circumference. All such Medicines, whether Purging, or Sudorifick, should consist of such Particles, as are rather of the nature of those infectious Particles that attend the Contagion, than of those that compose the Mass of Blood; for he is of opinion, that from this mutual likeness, the infectious Matter is the sooner carried off. Hence he recommends all Purges, Vomits and Sudorificks, which are prepared of Mercury, Antimony, Gold, Sulphur, Vitriol and Arsenick, which seeing they are not overcome by our natural heat, are admirable Remedies against the Pestilential Poyson.

Alexetericks, as Rue, and *Scordium*, of Compounds, as Treacle, Mithridate, and *Diascordium*, inspire the blood and Humours with a new Ferment, and by keeping up a gentle and even Motion, prevent Coagulation or Putrefaction, dissipate the poysonous Particles, when they begin to croud together, and prevent their coming to a head, being as it were a constant guard to the Blood and Spirits against those Malignant Impressions. This Author therefore would have the Patient first Purge or Vomit, then Sweat, which he advises may be frequently repeated, with the constant use of Alexipharmacks intermixt, that with the free eruption of *Bubo's*, or Carbuncles, all the Malignant Poyson may be expelled. Therefore the whole busi-

ness lies in expelling the Pestilential Matter, and in hindring its return.

As to Malignant Fevers, there are buttwo things to be considered, according to our Author, (*viz.*) the Malignity, and the Feverish Intemperature. Now the Remedies that cure the last, as Purging, Bleeding, and Cooling Medicines, encrease the Malignity, and make the Poyson spread further; as Antidotes, and Sudorificks, which resist Malignity, on the other side encrease the Fever. So the Prudential use of both is all that is to be considered here.

§. 15.

Sylvius, who placeth the cause of the Plague in a certain Lixivious sharp and volatil Salt, is for Medicines Preservative, and Curative. Whilst he visited those that were sick of this disease in *Amsterdam*, he armed himself with nothing else but a bit of Bread soak'd in a Spoonful of Wine-vinegar: but when he left off the use of Vinegar, he always felt some pain in his Head at his entring into any House that was infected. Therefore he commends all Acids, and condemns Spirituous things, as the Spirit of Wine, Treacle, &c. but for spirit of Salt, Sulphur, or Vitriol, he commends them highly: As he doth also Acid Fruits, as Citrons, Limons, Pomegranates, English Currans, &c. Those who likenot acids, he allows to temper them with the Spirit of Wine. So also he commends the following Composition.

Take

Take of the Conserve of Roses two Ounces, Flowers of Marigold, Rose-mary, Borage, Bugloss, Violets of each half an Ounce, Spirit of Vitriol enough to give it a pleasant tast, of which let a Man of a middle Age take fasting in the Morning, the bigness of a Wall-nut, a young Man less, and a Boy still less.

He commends also Syrups, and Lozenges made of acid Juices, as Crude Tartar, Cream of Tartar, or Tartar Vitriolated, in Broth or Wine.

For preventing the Plague, he doth not much esteem of Amulets or Charms, because it cannot be demonstrated how they act. Hence it is that he Laughs at the hanging of crude Mercury about the Neck in a Goose-quil, for the keeping off the Pestilent Matter.

As to the Cure, seeing that the Pestilential Poyson very often enters through the Pores of the Body, he is for driving it out the same way by Sudorificks. But when it is taken in by breathing, and mixing with the Spittle, corrupts it, which being swallowed, causeth a certain Nauseousness in the Stomach, then he very fitly adviseth an Antimonial Vomit: but when this Malignant Poyson is so fierce as to corrupt or destroy all parts that lie in its way, he prescribeth Medicines, that powerfully fix and temper Sharpness, or Acrimony, as fixed Sulphur (to wit) Metalline, or Mineral. By these Medicines also he will have the Choler that is sharpened by this Pestilential Poyson to be fixed.

He commends also all Acids, in respect they recover the Acid Juice that is dull'd and corrupted by the Pestilential Poyson, and in some degree correct and mend the Texture of the Blood. For Sudorificks he commends above others, *Theriaca Andromachi*, Mithridate, *Diascordium*, Orvietan, Treacle-Waters prepared with the Spirit of Wine, or destilled Vinegar. To these he addeth also some Preparations of Antimony, as *Antimonium Diaphoreticum*, *Bezoardicum Mineral*. as well the Simple, as the Solar, Lunar, &c. the golden Diaphoretick Sulphur, fixed Flowers of Antimony. As for Medicines that are more simple, he commendeth in general Fat or Sealed Earths, Bole Armenick, *Terra Lemnia*, *Silesiaca*, *Turcica*. Amongst Vegetables he commends the roots of Butter-bur, *Contrayerva*, *Angelica*, Tormential, Zedoary, the Leaves of *Carduus Benedictus*, *Scordium*, Centaury the less, Scabious; for Woods, *Guajacum*, Juniper, Box, Oak, Sassafras; Seeds of Elder, and dwarf-Elder; and also a Rob made of Juniper-berries. Remedies from Animals in this case, are the Bezoar-Stone, a Stone found in a Hogs Belly, and such like; as also all Horns, Bones, and Claws, and chiefly volatil Salts, and Oyls drawn from them, which are Sudorifick in a high degree.

To temper and moderate the Volatility and Lixivious Acrimony of this Pestilential Poyson, he commends Tartar above all things, and most of all the destilled Oyl thereof; so also for the fixing of volatil Salts he praiseth Salt-peter. For by this Salt, Arsenick, Orpiment,

ment, Antimony, and such things as consist of a volatil Salt are fixed: yet above the rest he commends Mineral Sulphur, artificially fix'd and prepared out of any Subject, which he calleth a most admirable Medicine in the Plague, or any other severe Distemper, on which he can surely rely. He commendeth all Acid Spirits, especially the more Simple, or those that are a little sweet'ned with the Spirit of Wine. From Animals he hath certain volatil, oily Salts, or Oyls destilled from Horns, Bones, or Hoofs. Amongst Acids he reckons sowre Milk, Butter-Milk, Whey that is sowrish, juices of Sorrel, Wood-sorrel, the greater House-leek, Barberries, Citrons, Oranges, Pomgranates pressed out with unripe Grapes. Amongst Minerals, he commends all Acid Spirits, destilled from Salt, Nitre, Alum, Sulphur, or Vitriol. *Sylvius* says that three sorts of Medicines are sufficient in the Plague; first Vomitories, as often as occasion requires: secondly Sudorificks, but such as abound with volatil Salt, for the moderating or taking away the Acrimony of the Pestilential Poyson. Thirdly Acids, and among these he prefers the Spirit of Nitre, as endued with a fixing quality, but for security he adviseth mixing it with watery Medicines.

Therefore in the cure of the Plague, our Author asserts, that a Vomit of Antimony may be safely administred, that may be at the same time also Sudorifick, especially in the beginning, and if there be a Nauseousness, and if the Patient be strong: after Sweating he adviseth, that the sick Person be

refreshed with Acids, and Cordial Mixtures: but so long as any thing of the Plague remaineth, such Medicines that are good to fix volatil Salt, or to correct the Air, and to restore the acid, are to be used, lest the Poyson neglected, and left to it self should gain new Forces, and on a suddain oppress the Patient,

According to our Author, the Pestilential *Bubo's* are to be discussed, and if that cannot be, they must be brought to Maturity and Suppuration, after this, he saith, they are to be opened, cleansed, and at last consolidated, adding to the Medicines according to his advice, Treacle, or Mithridate, to which end he commends the destilled Oyl of Harts-horn, and other Medicines that abound with an oily volatil Salt.

He hath observed that *Unguentum Martiatum* with Treacle, hath been used in discussing with great success, as also *Emplastrum cum gummi compositum*. Unless the pains are very urgent, he is not for Scarifying the *Bubo's* too soon, much less for using Vesicatories, or Cupping-glasses. But if they are great, and burning, then he adviseth Cupping, and Scarifying, but never Vesicatories.

So soon as ever the *Bubo's* are suppurated, he is immediately for opening them with a Pen-knife or Lancet: to which when opened he administers *Balsamum Sulphuris Amisatum*, and mixed with Turpentine, together with *Unguentum Basilicon* and Treacle, and all this with great success, for thus the *Bubo* is soon cleansed. To bring an Escar over it, he useth *Emplastrum Diapompholigos*, and to

to prevent the encrease of the Carbuncle, as also a Mortification in the Neighbouring parts, he adviseth that the affected part be anointed up and down with the Butter of Antimony, or *Magnes Arsenicalis*, and that the separated parts be cleansed with the anisated Balsam of Sulphur, together with a mixture of *Unguentum Tetrapharmacum* and *Basilicon*.

Sylvius prescribeth the same Medicines in Malignant Fevers; for he asserts that the volatil Salt sharpened, which is the cause of the Malignity, is mended and corrected by the same Medicines, (to wit) those Oily ones, mixt with some acid, or some earthy substance, in which respect he allows of *Terra Sigillata*, all mineral and metallick Sulphur well and truly prepared, of Vitriol, Antimony, &c. to this end also he useth Treacle and *Diascordium*, and so to correct the sharper Salt, he useth all volatil, kind, and Oily Salts. Here also all Sudorificks are convenient, inasmuch as they drive the Enemy out of Doors. To this end he commends the following Prescription.

Take of old Treacle two Drachms, *Antimonium Diaphoreticum* one Drachm, Syrup of *Carduus Benedictus* two Ounces, the prophylactick Water one Ounce, Cinnamon half an Ounce, Scabious two Ounces. Mix them. Let the Patient take the fourth, or fifth part of this, and dispose himself to Sweat, then half an hour after let him take one or two Spoonfuls more, and so on till he is in a gentle Sweat.

In the mean while if he is very thirsty, and his Tongue dry, he adviseth him to take a little Broth, with a little Limon or Orange juice, which will not only promote sweating, but also correct the Acrimony of the Salt. He seldom or never adviseth Vomits here, unless when any thing of that Salt sticks in the Stomach, or Guts, then he alloweth the milder Antimonial ones. He adviseth the frequent use of *Antimonium Diaphoreticum*, and *Bezoardicum*, with the intermixture of Acids, to recover the natural Consistency of the Blood, for which Pomgranates, Quinces, Oranges, and Juice of sowre Grapes are very good.

§. 16.

NOW let us propose the cure of this Disease according to our Own Indications. There are two things that are chiefly to be considered in the cure of Malignant, and Pestilential Fevers (to wit) the *Intemperies*, or Indisposition, or the Malignity; one is cured by Alteratives, the other by Antidotes, yet neither without regard had to the Symptoms that occur.

The Remedies are Chirurgical, Pharmaceutical, or Dietetical: As to the first, Bleeding comes first to be considered, which is wholly to be omitted in a Malignant Fever, because it renders the Blood more sharp, and fluid; which yet *Sydenham* both in the *Plague* and Malignant Fevers allows of. Here also Vesicatories are to be considered, which we have known successfully used to the Feet, and Wrists. And tho by some they be

be called in question, yet in this case we rather trust to our own experience, as also that of other more famous Men, as, *Horstius*, *Riverius*, *Hæferus*, and others. We allow neither of Purges, nor Vomits, and whatsoever others suggest to the contrary, we have experience on our sides, without any contradiction of Reason. Vomits will do no good unless immediately at the beginning when the Stomach is full. Glysters also I do not much approve of. In time of Infection there must be great care of Eating before taking an Antidote, for I have known several escape of the Plague, who before either Sleeping, or Eating have taken an Alexipharmack; on the other side, several have dyed, who have slept or Eat before the use of any Antidote, in spite of the stoutest Remedies that have been Administred afterwards.

But nothing in this case answers your Sudorifick Antidotes, yet in respect of the Fever, the hotter sort are not to be used, which if they do any good, it is by chance, to wit, by the Benefit of Perspiration; for the poysonous Particles being grown sharp, and troublesome, are hereby thrown forth. Therefore the first thing we do, is to set upon the Malignity, which is conquered by the more fixed sort of Bezoardicks; nor do we tarry for that Concoction which *Hippocrates* speaks of. The milder Antidotes we use here, are the Powders prepared of *Antimonium Diaphoreticum*, *Minera solaris*, *lunaris*, Metalline Earths, to which we always add a little Camphore. The best compound Powders, are the *Hungarian Pow-*

der, and the red *Saxon powder*, as also the Bezoardick powder of *Sennertus*, as also others, as of *Carduus Benedictus*, Worm-wood, Rue, *Nitrum Antimoniatum*, the Saphire stone, which however we do not rely on alone. Here also those Antidotes are proper, which are commonly said to resist Putrefaction, as *Theriaca Andromachi*, *Damocrates's Mithridate*, *Fracastorius's Diascordium*, the Celestial Treacle, Citron-Treacle. All Medicines made of Sulphur, Salt, Aloes, and Myrrh are convenient; as also all viperous Medicines. But the volatil Salt of Vipers ought to be fixed, and prescribed so; it is fixed by the Spirit of Vitriol. Such a Remedy, as this that follows may be used.

Take of the Treacle of *Andromachus* a Scruple, Powder of Crabs-claws six Grains, of Saffron three Grains, *Carduus*-water two Ounces, *Sylvius's* Prophylactick-water half an Ounce, *Syrupus Liberans* three Drachms. Mix it, and give it.

That English powder of Crabs-claws, with some passeth for a great Secret, which is as followeth.

Take of prepared Pearl, Crabs-eyes, red Coral, the whitest Amber, Harts-horn, the Eastern Bezoar-stone of each half an Ounce, of the powder of the black Tips of Crabs-claws to the Weight of all the rest.

Let the Powder be made according to Art, which may be given in

in a Gelly of Vipers, or little Balls made thereof, carefully dry'd and kept for Use. Amber Medicines with Cinnabar are good in this case, in which there is a gentle Sudorifick virtue. The following drink is excellent.

Take of native Cinnabar, Harts-horn, Flowers of Sulphur, the back Bone of a Serpent of each a Scruple. Mix them.

The Cinnabar of Antimony with a few Grains of *Magister Anodyn.* is an excellent Remedy, it may be given, even to those that are like to dye, with the Bezoar-Stone, or *Pulvis Pannonicus*. But if Vomiting should happen, as it often does in these Pestilential Hungarian Fevers, with Dr. Sydenham, I am for deferring or not administering any Medicine, till even by the very Weight of the Cloths the Patient begins to Sweat. For when the Morbifick matter advanceth towards the *Superficies* of the Body, the Flux of the Belly, and the Vomiting, caused by those Rays turned inward, and falling upon the Stomach and Guts, cease of their own accord; so that let the Stomach be never so discomposed before, it afterwards retaineth the Medicine, and produceth those Sweats according to your desire, or intention. Let the following Powder be given often at several times.

Take of Myrrh, Root of Zedoary, the Bark of Citron of each half an Ounce, Cinnabar of Antimony a Scruple, Camphore half a Scruple, Oyl of Amber, and Mint of each a drop. Mix

them into a Powder. The Dose is from a Scruple to half a Drachm. Or,
Take *Unicornu fossil.* a Drachm, the Magistery of Lead a Scruple, of Myrrh a Scruple, Camphore five Grains. Divide them into two equal parts, and give it with the Prophylactick-water of *Sylvius*, which may be repeated in six or eight hours, though a Sweat doth not always follow, till it be manifest that the Enemy is beaten, and Nature remains Victorious.

In the mean while let the Patient be refresh'd with a slice of Citron a little Sugar'd, and let his Broths be well season'd with Acids; for they befriend the Blood, and powerfully resist Poyson, defending the Animal and Vital Spirits, from all Assaults. Great care is to be taken always of the worser Symptoms, especially a Flux or Looseness; therefore to kill two Birds with one Stone, Bezoardicks are to be mixed with such Medicines as strengthen the Bowels and Entrails: so you will answer both Intentions. Let the following Powder therefore be given, or such like.

Take of *Terra Sigillata*, *Gasccon's* Powder of each a Scruple. Mix them for one Dose. Or,

Take of the *Diascordium* of *Fracastorius* a Drachm, German-water two Ounces and a half, *Species Hyacinthi* a Scruple, Syrup of Fumitory half an Ounce. Mix it, and give it.

These

These and such like are to be given as oft as there is occasion, for provoking of Sweat. So also care is to be taken of the strength of the Patient, for which Intention the following Prescription is good.

Take of the Water of the whole Citron, *Scordium*, black Cherries of each two Ounces, of the cool Cordial-water of *Hercules Saxoniae* half an Ounce, prepared Pearl a Drachm and a half, Harts-horn burnt and prepared two Drachms, Crystal of Sugar enough to season it, or render it grateful. Mix it.

A Mucilage of Quince-seeds corrects the dryness of the Tongue, as also the Gelly of Harts-horn, likewise the red Water for the Mouth, with which it should be often washed. Against excessive Watchings, Almond Emulsions are very good, as also Oyntments, and Plaisters applied to the Temples, and Wrists.

For Weakness or Fainting Fits, the usual Pearl-water is very proper, and also the following Epithem applied to the Heart, and Wrists.

Take of the Cordial Water *pro Epithem*. Rose-water of each an Ounce, Carbuncle half an Ounce, the Spirit of the Rind of Citron three Drachms, Bezoardick Vinegar distilled two Drachms. Mix 'em, and give it.

These things premised, let us

now treat of the Cure of the Plague or Pestilence, that fierce and horrible Disease, for which we think all those things mentioned in the cure of Malignant Fevers to be very proper, and that what is destructive in one case is so in the other. Bleeding therefore, and Purges, Vomits and Glysters, as also spirituous, and hotter Cordials we reject, and do not much approve of Alexipharmacks, but we choose out only some gentle Alexetericks and Bezoardicks. Yet before we treat of the Cure of this Disease, we shall say something of the way to prevent it, and preserve the Body free from it, which consists in shunning infected Air, and in having a cheerful Mind, which if we cannot do, let us correct the Air, and arm our Bodies against the Enemy as well as we can. Nothing corrects the Air so much as clear Fires of the Wood of Juniper, or Firr, Pitch-Barrels; and amongst Suffumigations, Brimstone, and especially Bezoardick Vinegars are very good. Thus in *Hippocrates's* time the Plague raging through all *Greece*, was kept off by Publick Fires. Therefore let the Air be clear from all Stinks, and let there be made in every House Suffumigations of Brimstone, and Gunpowder, as was mentioned before. A courageous and quiet Mind is the best Preservative, hence the *Turks* with more than Stoick-fate, take no notice of the Plague, nor do they avoid the Company of those that are infected.

As for Amulets or Charms, in this case we are for those that are prepared of Toads, out of the Eyes and Nostrils of which, when hung

hung up, there creep certain Worms, which, as *Helmont* saith, are a good Preservative against the Plague. In imitation of which the excellent *Irmelerus* prepared certain Trochiscs, which many have found very wholesome and efficacious. Some commend Arsenick, others Mercury; which yet in the Plague at *Nimeguen* failed *Diemerbroeck*, and in that at *London*, Dr. *Hodges*. You may prepare safer of Native Cinnabar, and the Root of Meadow Saffron. As to those Charms which some call *Talisman*, I leave them to the Astrologers. Yet this is to be said of Charms, That in the Plague at *Dresden*, they were found to have no force nor Efficacy; whence many, not without great reason, begin to doubt of their so much talk'd of Operation: Now let us in short consider Inward Medicines, amongst which strong Wine moderately taken hath the chief place, by which Remedy the famous *Diemerbroeck* preserved himself in the Plague at *Nimeguen*, which the famous *Waldsmidius*, chief Physician and Publick Professor at *Marpurg*, hath tryed as well as I, who when for several years he visited those that were Sick of the Plague, took always a few Spoonfuls of Wine fasting; and by this Remedy alone, and God's Assistance escap'd the Contagion. Thus also *Sylvius* with a little Marigold-Vinegar, and a bit of Bread preserv'd himself. There are several other things which deserve Commendation in this case, as *Angelica*, Zedoary, Carline Thistle-root, so first called from *Charles* the Great, Emperour of the *Romans*, and first of that Name, whose Army was preserved from the Plague

by the use of this Root, the Virtue of which an Angel taught them; from whence to this very Day it is said to preserve against Contagion, and therefore it's good when chewed in the Mouth; the Root of Masterwort also, Galangal, Citron peel, Cinnamon, Myrrh, &c. are well esteem'd; but let those that use them take care they swallow not those Powders when chewed, since it is most certain, that the Infection insinuates it self into them: therefore in the Plague-time the Spittle ought never to be swallowed. There is nothing fortifieth the Spirits so much against this most fierce and cruel Disease, as the use of Bezoardicks, whose number by the diligence of Physicians is well encreased, amongst which all those that are composed of Treacle, are excellent, especially *Theriaca Cœlestis*, *Theriaca Camphorata*; here all Odoriferous things do good also; thus we see Flies, and other Insects are driven away with the smell of the Spirit or Oyl of Turpentine. Others extremely commend Diaphoretick Gold, Oyl of Camphore, Dr. *Michael's* Bezoardick Tincture, the nitrated Tincture of Sulphur, the Essence of Vipers; others commend other things. Thus a certain Apothecary for Lucre's sake went into the most infectious places, and visited those that were Sick courageously, preserving himself free from Contagion by the Spirit of Urine. *Mynsicht's Tinctura Vita*, is an admirable Preservative. But who, I pray, shall or can reckon up all things used in this case?

Chirurgery affordeth us a more excellent and noble Amulet in the

use of Issues; these truly according to mine, and others experience have done great things, nor have Veficatories done less good, tho the use of them is not much allowed in the Flux of the Hæmorrhoids, the monthly Courses, nor to those that are with Child, and very weak.

Now for the Cure it self, where in the first place, as we said before, we exclude Bleeding, which some at *Erfurt*, during the Plague, celebrated to the great hazard of the Patient's Life. He that desires Witnesses in this case, let him Consult *Pareus*, *Massa*, *Andernacus*, *Fonseca*, *Forestus*; amongst the Moderns, *Paul de Sorbait*, *Waldsmidius* and others; for it's certain, that by Bleeding the Fermentation of the Blood is encreased, to the destruction of the Patient; wherefore I very much wonder the famous *English* Practitioner, Dr. *Sydenham*, hath approved of Bleeding in this case, as well by reasons, as experience.

Upon the same Account, we reject Scarifications also.

These things premised, you are to know, that as soon as the fountain of Life is assaulted by this Malignant Enemy, it is necessary to bring immediate assistance to the Animal Spirits. For this most acute Disease destroyeth like the flying of a Dart, unless prevented by immediate and present Remedies. The Signs therefore of Contagion appearing, the whole Cure depends on the immediate use of Antidotes, before the Poyson hath perverted the whole Mass of Blood, and Coagulated it like Whey. For when once the Animal Spirits, and the Region or Cittadel of life are pos-

sessed by this dreadful Enemy, all human helps are in a manner vain. Here, were it not too tedious, I could produce a World of Bezoardicks. Fossil Unicorn, in respect it hath an Astringent Force joyned with a Bezoardick Virtue, and that it also imbibes the caustick Salt, stopping Looseness, Dysenteries, Convulsions, and other Symptoms in the Plague, as *Francis Joel* in his Treatise of the Plague, testifieth is much commended. The Dose is from half a Scruple to a Scruple, which Virtues, as some believe, *Lapis Stellaris* hath, as also the Earth of *Lemnos*, and all Sealed Earths. Thus *Bezoarticum Saturninum* is accounted of great Virtue, whose description the famous *Hoffman* in his *Clavis Schroderiana* delivers of Antimonials, and Sulphureous, as also Camphorated, Cinnabarine, Succinated, Volatil Balsamicks; wherefore several Prescriptions are to be seen of this Nature. The best are those that follow, which the famous *Etzmullerus* has had great experience of; (to wit) the Oyl of Amber Camphorated from Nine Grains to twenty in Germander-water, or the Prophylactick of *Sylvius. Heinsius's* Antipestilential Oyl, which is prepared of the Oyl of Amber Camphore, &c. *Regler's* Camphorated Electuary is praised by him also, by reason of the great virtues it hath. You have here the Prescription, but something Corrected.

Take sweet Almonds husk'd an Ounce, beat them in a Stone-Mortar, add an Ounce and a half of Camphore, white Sugar-candy two Ounces, Powder of Ginger half an Ounce, *Scorzogera*

nera Root an Ounce and a half, Virginian Snake-weed an Ounce, *Contrayerva* three Drachms, *Scordium* two Drachms, red Coral prepared two Ounces, Oriental Pearl a Drachm, true Unicorn half a Drachm, Bone of a Stags Heart half a Drachm, *Andromachus's* Treacle equal to the Weight of all. Make an Electuary.

Our preserving Powder is as followeth.

Take *Montagnana* and *Mantuan's* Powder of each two Drachms, *Species liberan. Hyacinthi* of each a Drachm, Root of Virginian Snake-weed and Camphore of each a Drachm and a half, Flowers of Sulphur half a Drachm, *Antimonium Diaphoreticum* a Drachm. Mix them to a Powder. The Dose is from half a Drachm to a Drachm.

We much esteem in this case all Preparations of Animals, Minerals and Antimonials, especially among volatil Salts we prefer above all other, *Liquor Cornu Cervi Succinatus*, and the English Balsam given to twenty Drops or more. All Acids abounding with a volatil Sulphureous Principle are good here, which do not only bridle the wild and sharp *Effluvium's* of the Spirits, and in a manner stop or fix their Motion, but by Coagulation prevent the weakening or dissolution of the Mass of Blood; for this Reason also the volatil Spirit of Vitriol is also wholesome; there are several Tinctures prepared of Emeralds and other Minerals. Thus the

stinking Spirit of Sulphur plentifully expels those nasty sweats that flow from the Body in the Plague, and other Malignant Fevers, thereby preserving the Spirits from all danger of the Enemy.

All Medicines prepared of the Blood, and Stomach of a Stork are praised in the Plague, by reason of some Alexeterick Virtue contained in them, because those Birds feed upon Snakes and Vipers. Medicines of Elecampane and Valerian are the best in this Case; therefore they are put into the Composition of the Bezoardick Tincture, which is used very much in Malignant Fevers, Plague, and other Diseases. The following Alexipharmack Elixir is not to be despised.

Take of the Spirit of Juniper-berries prepared by Fermentation half a pound, Root of Virginian Snake weed, Valerian of each two Ounces, Saffron, Myrrh of each half an Ounce. Extract the Essence thereof, in which dissolve Oyl of Amber, and Camphore. Mix it for an Elixir. The Dose is from Five Drops to Ten.

Or,

Take of the Rob of Juniper a pound, *Flos Sulphuris* four Ounces, white Ginger two Ounces, Powder of Citron-peel, Root of Virginian Snake-weed of each half an Ounce, red Myrrh an Ounce, Campore six Ounces, Opium dissolved in Vinegar two Drachms, Treacle-Vinegar an Ounce and a half. Mix it into an Electuary, which will both preserve

from the Plague, and cure it.

These are the more Noble Medicines, by the assistance of which the Enemy is to be destroyed.

Anoint the Region of the Heart and the Wrists, with the following Anti-pestilential, or such like Balsam.

Take of the Oyl of Amber Camphorated a Drachm, Rue, *Angelica*, Citron peel of each a Scruple. With the Oyl of Nutmeg make a Balsam of a just Consistency.

The following Plaister applied to the Heart, and Wrists, as well in other Malignant Diseases as in the Plague, they say, hath been tryed with great Success.

Take of Venice Turpentine an Ounce, melt it in a Copper Kettle, add to it twenty live great Spiders, work it up, and down with a wooden *Spatula*, till the Spiders appear white or greyish, and can scarce be discerned, then add of the Powder of Toads-flesh dryed half an Ounce, Crude Sulphur an Ounce, Savine two Drachms, *Matthioli*'s Oyl of Scorpions a sufficient quantity. Stir them altogether with a wooden *Spatula*, till they be of a fit Consistency to make a Plaister of.

But it will be better, if you put in Toads prepared after the *Irish Butler's* way.

It seemeth needless to treat farther of the Symptoms of this Di-

sease, for it being rightly cured, they vanish of their own accord.

But we give a general caution against the unseasonable use of Anodynes, Hypnoticks, or any other Medicines which may be used to take away Thirst, Flux of the Belly, Hæmorrhagies, or Dysenteries; for thus the Motion of Nature may be hindred, to the irreparable prejudice of the Patient.

As for *Buboes*, Carbuncles, and Spots, the most common Symptoms that attend the Plague, in bringing the *Buboes* to Perfection and Maturity, there is no remedy comparable to Dr. *Hodges's* Plaister, or the Magnetick Plaister of *Angelus Sala*. For this end, Pigeons, Hens, especially live Swallows; and dryed Toads, may be applied to the *Buboes*, as also Gentian, or Root of Virginian Snake-weed mixed with Treacle in form of a Cataplasim, for it draws out all the Poyson. Others commend Cupping, and Scarifying, yet with little benefit to the Patient; nay, by this means the Pains are encreased, the Symptoms exasperated, and their Cure is hindred. Therefore the best and safest thing in this case, is the applying of Cataplasims made of Treacle, the Crum of White bread, Linseed, Elder-flowers, Figs, Chamomil, Yelks of Eggs, Saffron, and such like, mixt with Honey, or boyled in Milk and applied to the *Buboes*. Antidotes may also be mix'd, that the Venom may be the better extirpated; as Treacle with Onions roasted in the Ashes; or such as are prepared of the Powder of Toads, Honey, Rue and Bean Flower; or, of the Roots of Marsh-Mallows, white Lilies, Comfry,

fry, the five Emollient Herbs, Scabious, One-berry, Rue, &c.

But if these things do no good, you may safely apply Vesicatories, which cannot be sufficiently commended.

As Carbuncles are more dangerous than *Buboes*, so they are to be handled with greater Diligence. And with all speed imaginable they are to be ripened, and their Caustick Acrimony is to be corrected lest it should spread further. To which purpose besides Actual Cauteries, which I abhor, and Potential ones, (but they must be Vesicatories) I commend *Emplastrum Arsenicale Magneticum*; and *Diemerbroeck's* Cataplasme, together with a Treacle *Lixivium*, is worth all the rest in

hindring the Carbuncle from Gangrening. The Eschars are to be separated with Digestives, after that the Ulcer is to be plyed with Abstergents, Digestives, Cleansers and Defensatives, lest the Poyson either go back or spread further; whereupon very often great Pieces of Flesh fall off, to which end in Ulcers I much esteem *Balsamum Sulphuris Anisatum*, or *Succinatum*, or *Terebinthinatum*, Balsam of *Perru*. Some draw a Saphire Stone about the Swelling, and no Pus or Poyson appears any more. For healing it, we commend *Emplastrum Saturninum Myrsichti*, mixt with *Mercurius dulcis*, *Sticticum Crollii*, *Oppodeldoch*, *Diapalma*, and the like.

C H A P. VI.

Of the Small Pox and Measles.

§. I.

WE, as well as *Willis*, place the Small Pox and Measles next to the Tribe of Pestilential and Malignant Fevers; which indeed are mixt Diseases, being both according and contrary to our Natures. As to their Original; they have their Seminary connate with our selves: And as to their Effects, they produce poysonous Symptoms, which usually occur in the Plague. And because the Small Pox usually invade all Mankind indifferently, we may upon very good Grounds suspect a common Cause, or Seminary, contracted in the Mothers Womb, and connate to every Man, which for some season lies buried in some solid Part, till having got an opportunity of breaking out, it burits out of its lurking Hole, and being mixt with the Mass of Blood, it produces terrible Symptoms, and often-times Death: Thus we oftner dye, than are born, from the very Womb. I saw a Child born with the Small Pox, of a great Lady, wherewith the Mother had been afflicted and marked. Yea, you can scarce find one in a thousand, who all his Life long remains free.

We shall retain our old Method, and briefly touch upon the Etymology. The Small Pox are called *Variolæ*, either from *variando*, because they vary or alter the Skin, or (which is more likely) from *Vari*, Pimples, because they are little Pimples, tho usually they surpass Pimples in Magnitude. The *Italians* call the Measles, *the little Plague*. Dictionary-Writers use the Word *Variolus* for the Fish we call a Trout. We in this place think the Word *Variolæ* should be taken in its most usual Signification, meaning by it those *Exanthemata* or Pimples, which by way of *Crisis* break out in the Skin, and suppurate, with a Malignant Fever, usually attended with several Symptoms. The *French* call them *La petite verole* or *Morbilli*.

By the Measles, we mean those red Spots, that break out with less protuberance, and an itching in the Skin, generally with a Fever, which yet are sooner discuffed, and without suppuration. The *French* call them *Rougeole*. *Martianus* calls them *Rosaliæ*. Ancient Authors make no mention of the Small Pox: Wherefore Dr. *Sydenham* thinks, that Diseases have certain Periods, according to those occult, and hitherto unaccountable alterations,

alterations, which happen in the Bowels of the Earth, to wit, according to its various Age and duration, just as there were some Diseases formerly, as the Leprosie, which are now lost.

Description.

THE Small Pox therefore are a new sort of Disease, which are described to be *Sanious Pustules, or little Abscesses, in the Skin especially, that are thrust out into the Ambit of the Body, like Lees from new Wine, by some common Cause, breeding a disturbance in the Heterogeneous Particles of the Mass of Blood, which till then lay hid in the solid Parts, with a great Effervescence of the Blood, intending as it were a critical Motion of Nature, rising with a Continual Fever, a Cough, difficulty of Breathing, want of Sleep, fright in their Sleep, and a subsequent Suppuration.*

The Measles are red, dry, and broader spots arising in the same Parts, from the same, but a little more volatil and sharp Matter; sometimes with more violent Symptoms and Fever, without Suppuration, which disappear by insensible Transpiration.

Difference.

THE Fevers, that attend these *Exanthemata*, are not always of the same Nature, but as they depend upon, so they are regulated by the Turgescence of the Matter, which disturbs the mixture of the Blood sometimes more, sometimes less. Wherefore all Small Pox are not Malignant, but respectively there be some that are benign.

The common People have given them different Names from the diversity of the Pustules and their Matter.

I am not ignorant indeed, that there is a question, whether the Small Pox be always attended with a Fever, or no? And I know, that Authors differ much in their Opinions and that some of them would prove by Arguments, drawn from Reason and Experience, That the Small Pox may break out without any Fever at all. But to confess ingenuously what I think, I can see no solid reason, whereby to establish this opinion of theirs. Therefore I am rather of the contrary opinion, that is, That there are no Small Pox without a Fever. For since the Small Pox are raised by way of Crisis, and indeed by means of a great Effervescence of Blood, which cannot be done without disturbance, nor by consequent without a Fever, any one may from thence easily gather, That the Small Pox cannot come without a Fever. I do confess indeed, I have seen several Children afflicted with the Small Pox, who complained neither of a feverish Heat, nor of any other grievous Symptom, but played, and eat and drank well, and were as quiet, as if no ill had befallen them. But here it must be observed, that this does not happen, but in such as have a very few, because of the paucity of the matter, & no violent Effervescence of Blood; or perhaps they were not sick of the true Small Pox. Thus I have seen Children taken with an Ephemera Fever, and a Tertian Ague, who have play'd in the very Fit.

§. 2. *Part affected.*

NOW Order directs us to the search of the Subject. And the primary Adæquate Subject in these Diseases, if we look on the *Exanthemata*, is the Skin, with its Cuticle, the shoar of the Microcosm, which are full of infinite Glands and Tubes; for there is the end of the Vessels, and there the fence of the Blood is observed, which receives all the refuse of the Blood and these *Exanthemata*. That part of the Skin therefore which is thinnest and hottest is most susceptible of these Sanious Pustules, which is the reason why they shew themselves more in the Back, than in the Face, Hands, and Feet. Therefore Physicians ought immediately to look on the Back, and that at the beginning, that they may be the more ascertained whether they be there. *Riverius de febr. pestilent. cap. 1. pag. 549.* reckons, that the Measles break out most in the Breast and Back, because these parts are the Emunctories of the Liver, to which he attributes the greatest share of Segregation: but he is out. Neither the Eyes, nor Ears; nay, and what is more, nor the Inner parts of the Body, to wit, the *Viscera*. Lungs, Diaphragm, Stomach, &c. are free from them. Which *Viscera* in such as dyed of the Small Pox, I have seen black and corrupt; yea, I have observed very black Small Pox as it were growing to the inner Membrane.

As to the Subject of the Cause, or of Inhesion, it is the Mass of Blood, and the *Lympha*; yea, all the solid Parts, wherein the Se-

minary lies buried, from whence these Sanious *Exanthemata*, which are so fatal to many, having got an occasion of breaking out, do bud: Nor do we exclude the Glands.

§. 3. *Diagnostick.*

BUT that it may appear, what the Patient ails, and whether he is troubled with the Small Pox or Measles, there is need of Diagnostick Signs, on the knowledge whereof depends the Scrutiny of the Causes, and the Foundation of Cure.

The general Signs therefore of the Small Pox and the Measles being imminent or to be feared, are, if a hot and moist Winter have gone before, that is, if the wind have been Southerly, which causes divers alterations in the Air. And hitherto it has been my observation, that they rage more in the Spring time.

But the Signs of the Small Pox being in any one individual to be attended are the essentially inherent ones. For at this Day here lies the greatest error, that the Physicians do not at the beginning immediately know that the Small Pox are coming. Thus in the most powerful *Ferdinand* the Fifth, elected and Crowned King of the *Romans*, who dyed of the Small Pox in the Month of *July*, 1654. the Physicians at first took it not for the Small Pox, but for a Tertian Ague, because there were presently *Deliria*, Tremblings, &c. therefore the cure succeeded ill. Wherefore Patients, if there be but the least suspicion of the Small Pox, must be asked, whether they have ever had this Disease, or if they have been,

been where those that had them were, if they have but cast their Eyes on them, and have been put in a fright thereby. I have an Example of a Gentlewoman, the Mother of three Children, who having never had the Small Pox, and looking on a Child whose Face was much disfigured with them, she straightway went home, fell sick of them, and dyed within six Days.

It will appear by the following Signs, that the Small Pox are either present or at hand. First, there is a gentle, sharp heat, with a frequent Pulse, which heat holds a Man continually and equably without Intermiſſion, or not without an equable Exacerbation, with a previous Shivering, painful Laffitude, notable Languishing, and pain in the Back and Loyns; on the second or third day there is usually a Fever attended with its Symptoms, to wit, Thirst, Head-ach, Loathing, Vomiting, &c. The Small Pox and Measles use generally to appear about the middle of the second day, more follow on the third, and the fourth they appear in full Body. And in this Case not only the Face must be looked on, but the whole Body must be laid naked, especially the Back, in which a slow, yet a happy Corruption often happens, when the Fever hastens from the Augment to its State. But it is best with *Sylvius* to suspend ones judgment till the third day.

In Children and other People before they appear, there precede Loathing, Vomiting, and oftentimes Tremblings, Convulsions and Epilepsies. And when they are come forth, the Patient is exceeding

Thirsty, and his Mouth is dry; nor will plentiful drinking cool his hot *Viscera*, in others it is gentler, and sometimes it is wanting. In the vital Faculty there is observed a Palpitation of the Heart, difficulty and quickness of Breathing, as if it were Strangling, Anxieties about the Heart, Swooning, a quick Pulse, which is often observed in the temporal Arteries. In the Animal Faculty there is Head-ach, want of Sleep; sometimes in the beginning unquiet Sleep, with Fright and *Delirium*, Convulsive Motions with Gnashing of Teeth, Lethargy, &c. The Belly is, as it were on purpose, Costive for three, four, five, or sometimes more Days.

In the Skin there preceeds a great Itching, with a pricking all over the Body, the Eyes are red, they water, and are dim, the Nose itches, and they sneeze, and bleed at Nose, the Ears tingle, there is Hoarseness, & a dry Cough, as also frequent Stretching and Yawning. When they come out, at first the Skin is a little rough and moist, then on the third or fourth day red Spots appear thick all over the Skin, most on the Back at first, afterwards on the Belly and Face; they encrease by degrees, and breed *Sanies*, usually till about the eleventh day, at which time, the Matter being all driven out, and gathered by degrees, they begin to dry and turn into Scabs, and Scales.

But the Measles, as they appear sooner, so they decrease sooner, so that the worst is over on the fourth, sixth or ninth day. The *Menses* come extraordinarily, they spit abundance of ferous Matter all the time of the Disease, and this Salivati-

on puts the Patients to much trouble; sometimes they spit Pus, wherefore this Disease often ends in a Consumption. Oftentimes the Nose bleeds; the Urine is Red, thin, and sometimes turbid; sometimes it is like theirs that are in Health, by the alteration of which several Pils-prophets boast how they can foretel when the Small Pox or Measles are coming. Yet all these Symptoms are not found in all Persons; but according to the greater or less quantity of the peccant Ferment, the Symptoms appear greater or less. In the Measles all the foresaid Symptoms appear more mild, than in the Small Pox; and at first they cannot easily be distinguished the one from the other, unless you will guess from common Contagion, whether it will prove the Small Pox or Measles.

§. 4. Cause.

IFever we are in the Dark, certainly it is in the knowledge of Causes, so that we may well say,

Felix qui rerum potuit cognoscere causas.

Hence it is most certainly true what Hippocrates says, *lib. de flatibus*: He that knows the cause of a Disease certainly, from things which are in the Body, having got the knowledge of Diseases by contraries, may easily give such things as will do good. For if in other things we are blind for want of Light, without all doubt here we are blinded in the Sun. Therefore first of all let us prosecute the

cause of our disease according to the Opinion and Principles of the Galenists. Galen's Disciples say, That these are no new Diseases, because they arise from a very ancient Cause, the Impurities of the Blood lurking in Children's Bodies; which the Arabians knew. But Hippocrates, and the Champion for Dogmatical Physicians, Galen, and other ancient Physicians make no mention of them. Galen's Followers hold, That Blood is the true cause of the Small Pox and Measles, because there is not one in a thousand, who has them not before he dies. But they do not think, That these Menstrual Impurities remain in the Body substantially, for this reason, because by long tarrying they must needs corrupt and putrefy, but they say, that only some bad quality is imprinted on the parts of the Fetus, which at length infecting some part of the Humors, grows troublesome to Nature, which at length rising up drives these infected parts to the Skin, which is the reason, why the Small Pox and Measles happen at ripeness of Years, and sometimes in old Age. They make a two-fold Excrement in the Mass of Blood, the one thick, the other thin. From the thick they ridiculously hold, That the Small Pox are bred; from the thin, the Measles. And they, as well as the Moderns, hold, That the Expulsion of the Small Pox and Measles is made by an Ebullition of the Blood; and according to Avicenna's Doctrine, they make a Two-fold Ebullition, one Perfective, another Corruptive. They call that Perfective or Depuration, in which only the impurer and excrementitious

crementitious parts of the Blood putrefy, and are purged out by Nature, that the whole Mass may afterwards be left pure: and then they reckon the Small Pox safe, which are cured without any Medical help. They call that *Corruptive*, in which not only the Excrementitious parts of the Blood, but the pure Blood it self putrefies; whence they hold, that dangerous and mortal Small Pox arise, and they judge, that such an Ebullition happens when they are Epidemical, and are produced by a Malignant Constitution of the Air, by which the Effervescence and Malignant Putrefaction of the Humors are caused, whence they say many and dangerous Small Pox are bred, which sometimes are fore-runners of the Plague, as *Rhases* thinks. The *Galenists* reckon the Small Pox and Measles among acute Diseases, ending usually within fourteen days. The *Arabians*, and their Master *Ebessina*, reckon the Universal cause of this Disease to be the Food, especially that wherewith Children are nourished in their Mother's Womb.

§. 5.

THE *Paracelsists* seek the Proximate Cause of the Small Pox in Sulphur, Salt and Mercury.

§. 6.

Hellmont will not admit the foresaid Nourishment of the Menstruous Blood to be the cause of the Small Pox, because when the *Fœtus* is nourished, it is

not Menstruous; but he says that they rather arise from Poyson, wherewith the Blood is infected, the Essence of which Poyson is not demonstrable *à priori*, but it resembles the property of Poyson by the Effects. He therefore thinks, That the cause of the Small Pox is an Exorbitance of the *Archæus*: for while the Ambient Air breaths some Endemial mischief, then the *Archæus*, who is quickly affected by what is Ambient, being impatient of a Malignant Air, breeds a peculiar Poyson in it self, which has such properties. He thinks this Poyson is bred about the Stomach.

§. 7.

Valut de febris cap. 15. does with the *Arabians* place the Proximate Cause in a Pollution of the Menstruous Blood at the time of Formation in the Mothers Womb. In which he holds, That a certain Ferment is bred, which being communicated to the Mass of Blood, gathers Vigor, and afterwards at set Periods procures a Turgescence and Superfluous excretion of Blood. For at the time of Conception, when the *Menstrua* are altogether stopt, he says, That much of this Ferment is bestowed on the *Fœtus*, and its Heterogeneous Particles, as something foreign, is blended with the Humors and Mass of Blood, in which they lye entangled, till the Particles are moved by some evident Cause, then they Ferment with the Blood, and cause an Ebullition, and then a Coagulation, whereby most of the Symptoms in this Disease are produced.

duced. He says, that these Fermentative Seeds are sometimes few and mild, and so entangled with other little Bodies, that they cannot easily get loose; but he holds, that in others they are more and stronger, so that upon any slight occasion they are ripened into this Disease. Hence he judges, that some have the Small Pox in their Infancy, others later, and not till they are well in years: some are apt to take the Contagion, others converse with the Sick without danger.

And he assigns a Three-fold evident Cause which stirs up these fermentative Seeds; to wit, Contagion, Disposition, and immoderate Disturbance of Blood. That this Disease is produced by Contagion he proves from dayly Experience; because *Effluvia* continually go from the infected, which being received by other Bodies, do presently, like Poyson, ferment with the Blood, and so according to him they raise the latent Seeds of this disease, and things Homogeneous to them, and dispose them into an *Idea* of this disease. Secondly, a peculiar Disposition of the Air is able to produce the Small Pox; hence it often grows Popular, and rages over whole Countries and Cities. Hence also they come ofttest in Spring and Autumn, because, as he says, at these times especially divers Tumultuous Particles fly up and down the Air, which we draw in with our Breath, and thence divers Effervescencies of the Humors and Blood, and *Idea's* of diseases are raised. Thirdly, altho there were no Contagion, and no Malignant Constitution of Air did preceed, yet he has seen this disease produced by excessive Com-

motion and Disturbance of the Blood and Humors, when no Body else has been sick in the whole Country. For who is there that will not allow, That without any previous Infection the occult Seeds may easily be brought into Act by excessive heat of the Blood?

He compares the manner of their production to the working of new Wine; as that throws off the *Fæces*, so the Effervescence of the Blood separates the unprofitable Excrements. He says, that Portions of the congealed Blood and Poyson break out about the fourth day; sometimes sooner, sometimes later; for the Coagulation of the Blood is not caused presently, but after some distance of time, wherein the Poyson shews it self and the Effervescence ferments the Blood. First of all, small Portions of the tainted Blood, and few in number, like Flea-bites, rise in the Skin, then come more, and the gathering of coagulated Blood encreases, then they rise, and those Spots which were at first red, as they gradually encrease, grow White. If the extravasated Blood with the Poyson, by Heat and Stagnation turn into *Pus*, about the seventh day the white Swellings dry into a Scab, that is, when the thinner part of the Matter is evaporated the rest grows hard, which, when the Cuticle is eaten through and broken, scale off. These and other very pretty things you may find concerning this disease in that Author.

§. 8.

Sylvius denies that these *Exanthemata* have their Rise from corrupt menstruous Blood, gathered about the Womb, during a Womans being with Child, some part of it being translated to the *Fœtus*, and at length, sometimes sooner, sometimes later, severed from the rest of the Mass, and forced to the Surface of the Body: But he rather is of Opinion, That the Antecedent Cause of the Small Pox lies in the Glands of the Kidneys, oftentimes stirred up by any Procatarctick Cause. And he attributes the proximate Cause of the Small Pox sometimes to a Saline Lixivious Acrimony, as in a Gangreen and Gangrenous Spots, such as are found in the Plague, and they are black and blew; sometimes to an acid Acrimony, in which, though he makes no question but the part may be corrupted, yet there is no Mortification or Blackness, but rather Whiteness; sometimes to a mixt Acrimony. He says moreover, that an ill affected Air is often the Procatarctick cause, which is the reason why the Small Pox are so often Epidemick. He derives it also from peculiar Food, and he holds, That fear may be the Procatarctick cause of the Small Pox, as the Plague and other grievous Diseases are observed to be produced by it.

§. 9.

SOME of the *Cartesians*, among whom is *Georgius Hornius* in *Arca Mosis* p. 121. derive the pedigree of the Small Pox from a Nameless Poyson, peculiar only to Mankind. *Mercurialis* proves by several reasons, That Small Pox come by paternal Inheritance from the Blood and Ichorous Matter that is Ebullient in Bodies through heat. He also derives the first growth of the Small Pox, from some Universal fault in the Air; but at this day he thinks the Transplantation is Hereditary. *Kircherus* refers the original of the Small Pox to the live Image of Death, or animated Putrefaction. *Langius* seems to be of his Opinion, who says, That the *Exanthemata* are nothing else but Receptacles and Lodgings of Verminous *Effluvia*. But he divides the vanity of Menstruous Reliques, or Impurities left by the Mother's Blood. *Fernelius* derives their Original from some Occult Influence of the Stars. *Dygby* seems to place the Cause of this Disease in the Blood, that remains in the Umbilical Vessels after the Birth. And there are some who hold it comes from the use of *Venus* after once Conception is over.

§. 10.

THAT therefore we may Extricate our selves out of these Meanders, we will give Our own Judgment, which when we have once proved, all other opinions will fall of themselves. We enquire not therefore, as several do, for the Proximate

Proximate Cause of the Small Pox in the Pollution of the Blood. For from the Ancient *Hypothesis* it is false, that the *Fœtus* is nourished in the Womb by the menſtruous Blood of the Woman, and the Seed of the Man. And it appears alſo from the experience of the modern Anatomists, That Conception is not made juſt before the *Menſes*, nor when they are actually come, but when they are over, to the end that the Veſſels of the Womb being then a little lax, the Mans Seed, or according to *Harvey*, the Genital Air of Mans Seed may paſs through them to the Maſs of Blood. Then in my Opinion the Womans Eggs do open, in other Mens fructify, and when they are ſo opened or fructified, they may be ſent by the *Ductus Fallopi-ani* into the Cavity of the Womb.

Ettmuller's opinion is more probable, who holds, That there is a certain Principle implanted in us, in regard whereof no Man can eſcape the Small Pox; the cauſe of it he derives from the Nutritive Milk, ſuckt by Children, as well in as out of their Mother's Womb, in as much as this, after the manner of all things made of Milk, is apt to corrupt, and turn to an Acid, Saline Liquor, and this lies under a Viſciditiy a long time, yea, ſeveral years, in the Veſſels and other places, which Acid after it has been hid for ſome time, at length, when occaſion is given either by the Air, Contagion or Food, or any other Non-natural thing being extrinſically by the like ferment communicated to the Maternal Blood, raiſes pernicious Febrile Efferveſcencies. I admire how hitherto ſeveral learned Men could

be ſo ſollicitous about a ſort of Ferment bred in the Mothers Womb, either through ſome fault in the Menſtruous Blood, or in the Milk, when nevertheleſs to me it ſeems, with deference to better judgements, that this Diſeaſe comes as other Fevers do. For let us but conſider the frequency of a Fever, does not every one in a manner fall into it at one time or another as well as into the Small Pox? And the reaſon, why the Small Pox ſeize Children more than grown Perſons, I am perſwaded, is this, Becauſe Children not only in the Womb, but when they are out of it, are nourished with Milk, whereby the frame of the Blood is rendred weak, and apt to coagulate, hence upon any occaſion given either by the Air, Contagion or Food, the Blood undergoes an alteration, hereupon this fermentative Acid contends with the volatil Salt of the Maſs of Blood, till the Enemy, to wit, that vitious Acid lodged in the *Serum*, be precipitated and ſubdued by the Spirits, which when it is precipitated, is by means of the intercutaneous Glands ſucceſſively thrown up into Pultules, and ſo at length turns to *Pus*, and the Skin, being eroded by the ſame, turns to a hard Cruſt, like a Scab, That there is an Acid the Pits do teſtify which remain in ones Face, as long as one lives, and the Malignant Ulcers likewise, which ſpread far and near, and ſometimes corrode the Veſicles of the Lungs, and ſo produce a Conſumption, according as the Acid is more or leſs Virulent. Let us ſuppoſe, that our Blood above all other Animals is beſt conſtituted of ſulphureous

phureous, balsamick and serous Parts, and that partly through variety of Food, but especially through eating of Milk and Flesh it gathers abundance of Excrementitious fermentescible Particles, that the Body naked in it self, and infinitely full of Pores, does continually transpire, which Transpiration when it is hindred, especially by a Southerly Air, it is apparent that both other sorts of Fevers, and these Exanthematical ones may readily arise; and so the reason of the thing is apparent, without any fault of the Nutritive Milk, or of the Excrement contracted in the Mothers Womb. The Corrosion of the Bones in the Small Pox testifies that a Corrosive Acid is peccant in the case, as I had a sad Spectacle at *Limburgh* of a poor Boy, whose Bones were more corroded by the Small Pox, than ever I saw any ones by the Great. So from this corroding Acid we may derive Convulsive Motions, and the Epilepsy, as Symptoms frequently attending the Small Pox: for it contracts the Nerves, and raises disordered and impetuous Motions, which often make a Concussion in the whole Machine. But let this be observed, that by an Acid we do not mean every Acid that is peccant in our Bodies, because these have a great Latitude; for we must imagine there is one in the Gout, another in the Epilepsy, another in Chronical diseases, one in the Measles and another in the Small Pox; but they differ in their manner, so that one is more fixt, another more volatil, one of another Specifick tast, constituting this or the other thing, which to us, as well as others,

is inexplicable. Yet I suspect that the Small Pox come of a volatil Acido-Saline, as appears from the Contagion, which cannot be expected from a fixt Acid.

Since Infants therefore both in regard of their Place and Food undergo a great change, it cannot otherwise be, but that some notable alteration must be made in the Blood, which, since alone it is not always sufficient to disturb the mixture of the Blood, by reason of the dulness and weakness of the Ferment to make an Effervescence, lies quiet for a time wrapt up in kindly, serous, balsamick, sulphureous Particles, till it is stirred up by the Air or some other occasional Causes. Wherefore, since the Seeds or Ferments of such diseases may lye harmlesly in peoples Bodies for a time, there is a question among Authors, but it is *de lana Caprina*, how the Seeds of Fevers, especially of Spotted ones, and of some others can lye hid; have we not our Blood from our Nativity so disposed, that upon occasion given, it must undergo many Mutations, Coagulations, Fusions, &c. We deny not, that Poyson may lye hid under Viscidity for a long time in the Body: For experience, and the Monuments of Physicians testify, that the Poyson of a Mad Dog has lain hid for many years. And as much is evident from that preparation of a powder among the *French*, which they call *la Poudre de Succession*, which Poysons may lye a year and more in the Body, before they shew their Spite. I suspect it is Arsenick prepared after some peculiar manner, which afterwards recovers its virtue again from the Air,

Air, as by the effect I proved lately in a Dog: And so Diaphoretick Antimony with Time acquires its Sting, as does Mercury given to Patients for the Venereal disease, or outwardly applyed, which I have observed lye in the Body for six years, and then re-assume its Malignity; for it cast the Patient into an Epilepsy, and at last it killed him. Nay, the same Poyson given to several Persons does not kill them all at the same Moment; sometimes these fermentative Seeds abound and are strong in the Air, wherefore they did not formerly lye in the Blood: for the Seeds neither of the Plague nor of any other Malignant Fevers preexist in the Blood. Some are sooner, others later taken with the Small Pox, some are difficultly, others easily infected, according as the disposition of the Blood differs. When these Particles are put in Motion, Nature fearing a total dissolution, does with all her Ability drive out those volatil foreign Salts, that are mixt with the Sulphureous Ichoreous Particles of the Blood, and cause all the disturbance to the *Superficies* of the Body, and so clarifies the Blood. Now in this Separation and Turgescence, while the Acid Particles of the *Serum* fight with the volatil, sanguineous ones, the mixture of the Blood must of necessity be hurt: Hence a Fever does generally or always attend our disease, for the more the Blood is disturbed, the more Malignant is the Fever. How the Blood is Turgescent, may be seen in *Willis*, and it is apparent from that Mechanical and Natural Depuration of a Vegetable Juice, that is, Wine.

We will explain a few Symptoms, and we shall find them generally flow from one Fountain, namely, an Acido-Saline, or a sharp, Corrosive ferment. It is apparent from what has been and shall be said, That there is an Acid, and that it transforms it self into different Symptoms, according to the diversity of the parts, where it is Predominant. When it falls on the Nervous kind and the Membranes of the Brain, then the Fibres of the Nerves are Convulsed; hence come Head-aches, want of Sleep, Phrensies, the Epilepsy, Pains in the Back and other Symptoms. When it falls in the Mass of Blood, through the intestine strife, and disturbed mixture, several Febrile Symptoms, a disordered Pulse, Palpitation of the Heart, and Anxieties are produced. When it mixes with the fermental *Lympha* in the Glands of the Stomach, it irritates the upper Orifice, and so causes Squeamishness, and Vomiting. If it falls on the *Fauces*, it causes drought, and by consequent Thirst. If on the *aspera Arteria*, it causes a Cough, Hoarseness, and other faults of the Organs of Respiration, till it is thrown off by three ways of Evacuation; namely, the more volatil parts of it by the Subcutaneous Glands, where it turns to little Ulcers; the more fixt partly by the Kidneys in Turbulent Urine, partly by the Guts in yellow stinking Stools.

The mediate Causes of this disease, are the Causes Natural and Non-natural, of which hereafter, when we treat of Diet.

But before we proceed any further, Why does this Disease invade such as are of Kin? We answer, That

That this may happen without any hereditary fault; for since People of Consanguinity are usually of an equal temper of Blood, and of an equal Motion of Humors, what wonder is it, when any occasional cause, especially the Air, the chief Author of all Epidemick diseases, so disposes them, if they be taken with the like disease?

§. II. Diagnostick.

According to Hippocrates *f. 2. Aph. 19. In an Acute Fever Predictions of Life and Death are not altogether certain*; since therefore an acute Fever attends these *Exanthemata*, I think we should be cautious about the Prediction. When the Small Pox and Measles seize grown People, the danger is greater, than if they take Children, according to *Aph. 39. f. 2.* & the disease is more dangerous in Autumn and Winter, than in Spring and Summer. Such to whose Family they have been destructive, are in greatest Hazard; they are worse for Fat people than for Lean. They are very dangerous in Women with Child; nevertheless we must consider the strength of Nature in such: for I have known some Women who have Mis-carried in them without much harm. This may be a reason, because the Febrile Effervescence lasts not so long in them as in other Continual and Acute Fevers, but abates upon their coming out; wherefore the Mouths of the Vessels are not so much opened, nor the Hæmorrhage of the Womb so contrary to Nature's intention. The Small Pox, which

seize and kill abundance at the same time, are more dangerous, than when they seize here and there one, for the greater the Malignity the more the Danger.

If many black and blew Spots arise, especially in the middle of the Small Pox, or between them, they argue great Malignity, and consequently danger. But when the Symptoms are mild in appearance, we must not thence conclude about the Nature of this disease; because there is often a Snake in the Grass, and a secret Malignity. Nor must a Physician be frightened, if bad Symptoms appear at the Beginning, to wit, Phrenzy, Convulsions, Epilepsies, &c. because the time before the *Crisis* is always grievous: but if these Symptoms exceed the bounds of Nature, they portend death, or danger at least. If after Eruption these grievous Symptoms abate, there is good hope: If the Fever return, and Epileptick Fits come afterwards, the Cure is Mortal. If the Febrile heat abate not after the fourth day; or when the Pimples come out, if it abate not a little, there is danger. Also if the heat abate sooner than it should, it is not able to expel the Heterogeneous taint from the Blood, and then Men dye. Therefore we must always be cautious, and not give cooling Emulsions at the Beginning, be the Thirst never so great. Otherwise we kill the Patient. Neither must Patients be kept too hot, for then you kill them.

Difficulty of Breathing and Hoarseness, according to Hippocrates *4. Aph. 50.* is of ill Portent. Want of Thirst, or of Appetite, after the coming out of the Small

Pox or Measles, argues danger. A Phrensy at the Beginning without Laughter, and not amending by Sleep, indecent lying naked, not knowing ones Friends, Trembling, Convulsions, Swooning, Grating ones Teeth, Want of Sleep, as they are bad Signs, so, as we have said, before and in the Eruption they are often harmless; but if they come after Eruption, we may boldly pronounce them Mortal. As to the Pustules, the sooner they come out, which is usually on the third or fourth day, the better, then they encrease successively till the eleventh day, and suppurate in Small Pox. On the contrary, if they come not out well, or if they strike in unseasonably; if they dye away presently, and the swelling abate immediately, without any abatement of the Symptoms and heat, all these things argue Malignity and Death.

The Flux of the *Menses* coming upon the Eruption of the Small Pox, is generally held to be dangerous; but I observed it in one of the Princesses of *Nassau* without any danger. Loosenesses also at the time of Eruption are generally reckoned bad; yet I have seen several escape in such a Looseness: However, black, bloody, green and stinking Stools, are reckoned bad by all Men. But in general, it is better to be Costive than Loose. If the Looseness give way to Treacle Bezoardicks, all may prove well.

A dry Cough is worse than when one raises something; thick Spit-tle is bad; a bloody one is not always bad. Plentiful bleeding at the Nose before, and at the coming out is good, and lessens the quan-

tity of the Small Pox. Excretive Sweats are good, waisting and cold ones are bad, according to *Hippocrates* 4. *aph.* 37. Chilness of the extrem Parts is bad also in the Small Pox, according to 7. *aph.* 1. Livid, violet coloured, or black Small Pox are worse than red or yellow, and denote greater Malignity. So brown and black Spots mixt with the Small Pox are a bad Sign. Distinct, round, picked Small Pox, and which come out all at once, also soft and clear ones are good. The Small Pox after the manner of acute diseases are at the height in fourteen days. And the reason why the Measles are over sooner, usually on the seventh day, is the Volatility of the Humors; but then they are often attended with more grievous Symptoms. The Small Pox are worst, which affect the Inwards; whence come Consumptions, Dysenteries, Quinsies, Gangreen, Mortification: Sometimes the peccant Matter is transmitted by Nature to some Nerve or other, whence sometimes comes Blindness, Deafness, loss of Speech, as I lately observed in a Village near *Hanover*, called *Hockstat*, where a Girl of seven years became Dumb, who, to her Parents comfort, towards the latter end of Summer, recovered her Speech.

§. 12. Dietetick Cure.

NOW we come to the Cure. The Dietetick consists in a due *Regimen* of the six Non-naturals. The *Air* therefore must be moderately hot. Women therefore do ill, who, by heating Chambers too much, kill more than they Cure.

Cure. But an over cold one must be avoided; because oftentimes it hinders Nature's Motion, by shutting the Pores of the Skin, so that the Small Pox cannot come out. Therefore Patients must not expose themselves in the Declension too soon to the cold Air, lest they Relapse. Some advise the covering People with a red Cloth. Others will have a Sheep or a Goat kept in the Chamber, according to *Ribertus, prax. 1. 7. de variolis et morbillis.*

As for *Meat* and *Drink*, Oat-meal and Barley-grewel, with Raisins, is good, especially if it be sharpened with juice of Citron, which is a secret in this disease, Gelly of Harts-horn, sweet and tart. For *Drink*, sometimes only a Decoction of Barley, with burnt Harts-horn and *Scorzonera*, is sufficient, or the things following may be put in Beer.

Take of Flowers of Bugloss, Borrage, Violets, Marigolds, Columbine, Pansies each one handful, Shavings of Harts-horn half a Drachm, Gum-lacca two Drachms, *Album Græcum* half an Ounce, (this may be omitted for nice Patients) a handful of these in Powder, may be put every other day in Beer. Or, a *Nodulus* may be made of Columbine-seed, *Terra Sigillata*, and Harts-horn Philosophically prepared. Or, which is better, drop into Small-beer, well wrought, Tincture of Columbine sharpened with Spirit of Vitriol, or Nitre, or Bezoartick Tincture, or of *Terra Carechur*. For we cannot well deny them *Drink* to quench their Thirst.

Flesh and Fish, salt, sharp, sweet aromatick things, all horary Fruits, New Wines and all manner of Drink not well clarified, must wholly be avoided; yet a few Spoonfuls of red Wine may be allowed.

Motion and *Rest* must be moderate, but *Rest* is most eligible.

One must not go to *Sleep* before he take a Bezoardick, and let him wake moderately. And the Patient should not take his Bed, till they are come out six days.

The *Belly*, before they are perfectly come out, though it be Costive, must not be unseasonably loosened, concerning which see *Langius dissertat. de Morbil. §. 99. et Sequ.*

All *Passions* of the Mind must be avoided, especially Fear, by which I have known several fall into this Disease: So Care and Sorrow must be avoided. I think Joy is the best: For a quiet Mind in this Disease as well as in the Plague, is the best preservative.

§. 13. Pharmaceutick Cure.

NOW we shall, as formerly we have done, give you the Pharmaceutick Cure according to the Mind of the *Galenists*. And they begin with bleeding, before the fourth day, or the Small Pox break out; especially if upon the coming of them out, there be a violent Fever, Restlessness, and Difficulty of Breathing. If the Urine be thick and red. They repeat it in elder Children, especially if the Fever be high or any other Symptom. The *Paris* Physicians

forbear not young Children at the Breat. Some, instead of bleeding advise Cupping for Timorous People. Before the Small Pox come out, if there be a Cacochymy, the Ancients advise Purging: But if they be coming, or already come out, they suspect it. Therefore they give only gentle things, such as Rhubarb, Cassia, Manna, Tamarinds, Syrup of Roses solutive, &c. After bleeding, and other Evacuations; they say, the coming out of the Small Pox must be promoted; to which end they advise not only Specifick Medicines, which drive the Humors to the Skin, but Diaphoreticks also and Alexipharmacks; especially if the Small Pox be Epidemical, and they commend the common and well known Remedy of *Rhases*, *Avicenna*, and the whole Family of the *Arabians*.

Take of fat Figs seven Ounces, Lentils husked two Drachms, Lacc two Drachms and a half, Gum tragacanth, Fenil seed each two Drachms. Boyl them in a Pint and a half of Spring-water, till a third part remain. Give a little with ones drink.

Or they Prescribe the following Julap.

Take of Root of *Scorzonera*, Sorel each one Ounce, Harts-horn half an Ounce, leaves of Scabious, *Sordium*, St. John's Wort, each one handful, fat Figs six, Gum-Lacc three Drachms, Seed of Turnep, *Carduus Benedictus* each two Drachms, Lentils excorticated half an Ounce, Gum-tragacanth a Drachm and

an half. Boyl them to a pound and an half. To three Ounces of the Colature add one Ounce of Syrup of Limons. Mix them. Give it twice or thrice a Day.

If the Malignity be violent, they think we should insist on Alexipharmacks. For which end, they commend *Confectio de Hyacintho*, Bezoar-stone, Coral, Pearl, Harts-horn, Oyl of Scorpions, and other things; nor will they omit Corroborators, both Internal and External through the whole course of the disease. As for the special cure of the Symptom, see *Riverius de Variolis & Morbillis*.

§. 14.

Paracelsus and Helmont endeavour to cure this Disease by their *Arcana*. For Helmont accounts the principal Indication to be the appeasing of the *Archeus*, which he procures by his depurative *Arcana*. Among these *Mercurius Diaphoreticus* is not the meanest, with which he Boasts how he has cured a Fever at once giving.

§. 15.

Villius, as the course of the Disease has three times, so he accommodates three several Intentions to each of them. Therefore for the first four or five days, before the Small Pox appear, and the Blood begins to boyl and Ferment, he either vomits or purges; yet he advises gentle Medicines, lest the Fermentation be made too high. If there be a *Plethora* he allows of bleeding.

Secondly, when the Small Pox appear

appear, he advises a gentle Sweat, that the Blood may gently ferment. And to defend the Throat, he commends a Decoction of Figs, Marigold Flowers and Harts-horn in Beer or Posset-Drink; and he gives moderate Cordials several times in a day. But he says, all hot and strong things should then be forborn. Then he advises the Omission of bleeding and purging. To defend the Throat he applies a stay quilted with Saffron and dipt in Woman's Milk, to which end he uses Gargarisms and Mouth-water. He orders the Eyes to be defended with Rose-water, Womans Milk, Saffron and such things applied by way of Cataplasm.

When the disease is in the Declension, and the Small Pox begin to wither and turn to a Scab, he says, the danger is usually over; yet he will have a spare Diet kept, and without Flesh. And when the Patient is able to walk, he gives a Purge three or four times, to carry off the Filth, left in the Bowels and Blood. Afterwards he allows a higher Diet.

§. 16.

Splius is for Prevention, when the Small Pox are Epidemick, or several in one House are taken with them, and there are others remaining, who have not had them. In this case he would have Children that are well, to be carried from such as are infected, into a wholesomer Air, in which there are no Small Pox. But if the Small Pox be kindly, he is against change of Air. And so for Prevention sake, he thinks, That divers and grateful Purges should be

given, according to the diversity of the Humors.

But as soon as the Head-ach, with the rest of the Symptoms of the Small Pox at that time, appears, he says, we must take care, if Blood abound, to breath a Vein, and take a convenient quantity of Blood away. And then within an hour or two after bleeding he would have the peccant Humor carried off that way it enclines; when there is loathing, by Vomit; when there is a desire to go to Stool, and a disturbance in the Belly, by Stool; and when there is a Sweating, he would have the peccant Matter carried off by Sudorificks; and above all others he commends Antimonials, because they cleanse the Blood; and he advises the Repetition of the same several days, especially when there is no Fever, and the Small Pox are come out, and the Symptoms are almost abated: then he says, That *Antimonium Diaphoreticum*, and *Bezcarticum Minerale*, are noble Medicines; next to which are divers seales Earths, Bole-Armenick, *Terra Lemnia*, Bezoar-stone, Unicorn of all sorts, Ivory, Harts horn, and especially gentle volatil Salts.

As for Externals, he commends all such as temper heat, when the Small Pox tend to Suppuration. Among which he commends Mutton-broth, Hogs grease, Pork and Bacon, with which he would have the Small Pox anoynted all over; And if an Apoltem any where be feared, he tries to *Balsamus anisatus*, *succinatus*, or Balsam of Juniper.

When the Eye lids are hurt, or the *Tunica Cornea* fretted he commends Womans Milk, with Saffron

from and Rose-water. But before this Epitheme he prefers the juice of Chervil, with a little Rose and Fenil-water applied with a Linen Cloth doubled to the Eyes. In other diseases of the Eyes and a *Panus* he says sharp things are good in a Cataplasim.

If the Small Pox cause an Inflammation in the Ears, he highly extols Spirit of Wine and *Sal Ammoniack*, poured into the Crum of White-bread, while it is hot, and applied hot: also a Decoction of Wormwood, lesser Centaury, Southernwood, and any other Aromatick Plant, put into the Ear hot; he commends likewise any Balsam of Sulphur, if a few drops be put into the Ear with a Feather.

In Shortness of Breath and a Cough he magnifies Antimonial Medicines, especially Diaphoreticks, and gentle volatil Salts.

§. 17.

HAVING given you a taste of these things, now we will proceed to our own Method of Cure. As for prevention, first of all, Air and Contagion must be avoided, then the Body must be kept free from all Filth. Gentle Purges may be given to carry off the vicious Acid. The noble *Digby* accounts it an Universal Preservative, if when a Child is born, the Blood that is in the Navil-string, when cut, be washed off with Wine; but I have tried it hitherto to no purpose.

I have found gentle Acids, and Absorbents, especially with Myrrh in them, very effectual in preserving several Bodies.

As to the Cure it self, these things following must be observed. One

Cure must be insisted on in the distinct, another in the flux Small Pox; because in these the Fever as well as other Symptoms torments the Patients for several days after the Pustules are come out; but in the distinct the Symptoms are not so violent. Since there are three notable times of this disease, the Beginning, to wit, the first Moment of the Febrile Invasion; the time of Eruption and Suppuration of the Pustules; and the third time from the state of the disease, till the Small Pox dry away and fall off, three curative Intentions also must be accommodated to every one of these. That all things therefore may proceed aright, a thin Diet, as we said before, must be observed through the whole course of the disease, observing a few things peculiarly. But above all things it is necessary, that the Patient avoid over-heating himself in Bed, as that famous Practitioner Dr. Sydenham testifies, who holds, That more dye of keeping too hot than too cold. For as Fruit too soon ripe is good for nothing, so no good comes of keeping too hot. It must ever therefore be our care, that an even Tenor of Ebullition be maintained in the Blood; and we should have a care chiefly for the first six days, especially if the Patient be in the Flower of his Age, or have exalted his Blood with high drinking, or if it be Spring or Summer time. The Patient must not be kept too hot with Cloths, nor with a Stove, he must forbear hot Cordials: for oftentimes, the longer Nature is in endeavouring Separation, so that the Effervescence do not quite cease, the surer the Separation is. Therefore

Therefore here we forbid Purges, Clysters, Vomits, and Bleeding. For by these Evacuations the Effervescence is not only too much abated, by means whereof in the mean time, the Parts to be purged off, should have been separated; but that very thing is carried off, which should have supplied the Secretion begun. Neither is it our Intention here, to expose the Patient to the Cold: However the most proper degree of heat to promote their expulsion, must be natural. But if upon bleeding unseasonably, or taking of Cold, the Pustules strike in, then I think we should use gentle Cordials; yet we must have a care, that we exceed not in the use of them. Therefore I think, all hot things should be avoided for the first days; since generally People in the Small Pox dye Phrenitick. For this reason at the Beginning we forbid our Patients the open Air, Wine and Flesh; and for their drink we allow them small Beer medicated. For their Diet, we admit, as we said before, of Oat-meal and Barly-grewel, Apples, and Milk, by the last of which I have seen Country Peoples Children cured, when all other things were omitted. Truly it is the safest way for the first six days to forbear Expellers and Sudorifics, and to give gentle Acids, such as Tincture of Columbine, of the Cordial Flowers, and juice of Citron. The famous *Waldsmidius* knows how to make an excellent Spirit against the Small Pox, which he has hitherto used with vast Success; so that not one, who ever took it in time, dyed of the Small Pox. And he adds nothing more, but that he recommends

gentle Bezoardicks with Myrrh in a small dose to some on the seventh, eighth and ninth day. I have seen so many effects of this Spirit, that I dare boldly say, no one for the future could dye of the Small Pox, if so be he used but this Medicine, and avoided the heat of the Bed for the first days. Certain it is, that several have dyed of too hot a Regiment: for we have observed that Pissing of Blood, purple Spots, Phrensy, Apoplexy and Death it self have risen from the unseasonable use of Cordials. The Blood takes time for separation; and if we hasten it, it will prove Abortive. Therefore at first all Precipitants must be avoided, till upon the Ebullition being finished, Separation be made in the Blood.

On the fifth day you may confine your Patient to his Bed, and give him some gentle Cordial: For instance;

Take of *Diascordium* one Drachm, Water of *Scorzonera* one Ounce and an half, *Cordialis Herc. Sax. frig.* half an Ounce, *Syrupus Acetositis Citri* two Drachms, Mix them for one Dose. Or, Take of water of *Carduus Benedictus*, *Scordium* each one Ounce and an half, liquid *Laudanum* fifteen Grains. Mix and give it.

Or give the following Expulsive Water.

Take of Root of *Contrayerva*, *Scorzonera*, Fenil each half an Ounce, leaves of Scabious, *Scordium*, Flowers of Pansy's, *Columbine*, Marigold, Bugloss, Vi-

olets each half an handful, shavings of Harts-horn six Drachms, Gum-lacca two Drachms, Seeds of Columbine half an Ounce. Infuse and destil them, with Decoction of Lentils what is sufficient. Make an Expulsive Water, of which take two or three Spoonfuls once in six Hours.

Or,

Take of *Extractum Theriacale* Ten Trains, *Terra Sigillata*, Irish Slate each one Scruple. Mix them. Make a powder. Divide it into two equal parts. Give it in Cordial Water.

Or,

Take of Seed of Columbine, Turnep, *Carduus Benedictus* each two Drachms, with Water of Fumitory and *Scorzonera*. Make an Emulsion.

You may give to the Poor half a Drachm of Columbine Seed, or according to *Ettmuller's* mind this following.

Take of *Antimonium Diaphoreticum* or *Mercur. vitæ parat.* one Scruple, Myrrh five Grains, Castor two Grains. Mix them. Make a Powder, and divide it into two equal parts.

But because these Powders are bitter, and are loathsome to young Children, we cheat them with the following drops; and the success is as good; Essence of Myrrh or Castor Alkalifate. Or before the Extraction, it is well imbibed with Oyl of Tartar *per deliquium*. We may mix *Elixir proprietatis sine acido* with watry Vehicles, and so give it with Success. For we commend Myrrh as a Medicine confir-

med by many Experiments in the Small Pox and Measles; and we may call Essence of Myrrh, *Tinctura Salutis*. So likewise we recommend Essence of Castor, as well Simple, as Compound of Castor and *Assa Fætida*, with tartarifate Spirit of Wine, as a preservative and curative Medicine. An Infusion of Horse-dung is admirable good in ones ordinary drink. *Ettmuller* prefers the use of Sheeps-dung in the Small Pox and Measles. Authors commend the *Glossapetra* of *Maltba* for their Bezoartick virtue above oriental Bezoar it self. We prefer Irish Slate before it, wherewith we have done more good, than with oriental Bezoar. The Dose is from half a Scruple to a Drachm. So *Saccharum*, and *Magisterium Saturni* given inwardly, do in this case wonderfully qualify the Acid of the Mass of Blood and *Lympha*. For their Use is excellent in all internal Inflammations. Here also *Diaphoreticum Regulinum* will do good, and *Antimonium Diaphoreticum* with Harts-horn in Emulsions, adding a little Myrrh, will be an excellent Expeller.

And when the Pustules are come out, it ought diligently to be considered, whether the Small Pox be Distinct or Confluent; which one may easily know by the greatness of the Pustules, their Paucity, slow Eruption, and want of violent Symptoms: for such are of the distinct kind. In this case, when they are come out, Cordials may be given, and a little hotter Diet may be allowed, Panado will be proper. The Confluent are dangerous; and here the Physician has an opportunity to show his Skill, and

and what the Art of Physick can do. We know indeed, that the Small Pox are reckoned among diseases that Women cure; but how many do they kill, especially of such as have the Confluent? And it is a doleful thing in this Age of ours, wherein Women prescribe to Physicians, and they recommend Mithridate, or *Diascordium*, or Bezoar, which if a Physician will not allow of, then they rail at and curse him. Since therefore after the ninth day by the Suppuration of so many *Buboes* a new Fever, and that a continual one, is raised, which often kills the Patient on the eleventh or thirteenth day, gentle Acids must again be given frequently. On the seventh, eighth and ninth days gentle Bezoardicks with Myrrh may be given. Therefore the Eruption of the Pustules being so made and promoted, and the heat of the Body abating, we must endeavour a third thing, that the ripening of them may be finished, which we may easily obtain by often giving of Antimoniate, earthy Medicines, adding a little Myrrh. Here is a receipt.

Take of Crabs-eyes one Scruple, *Terra Sigillata* half a Scruple, Myrrh six Grains. Mix and give it. Hereby the work of Suppuration and Maturation is promoted; also Marine Medicines, Coral, Mother of Pearl and Crabs-eyes do the same thing; to which notwithstanding we must always joyn Myrrh; for so we shall promote Suppuration, that the Small Pox shall fall off without pitting.

In the Malignant Small Pox and Measles, if there be Signs of Convulsions, Epilepsies, Phrensy, &c. if there be want of Sleep, grievous Pain, &c. then it will be advisable to give a Bezoardick powder made of Diaphoretick Antimony, *Terra Sigillata*, Harts-horn prepared without Fire, *Contrayerva* Root; Bezoar-stone may be joyned with Cinnabar of Antimony, adding a few Grains of *Magisterium Anodynum*.

We hasten to another design, namely, to take care of the Symptoms that happen at the time of the disease. Among these Vomiting has the first place, and is the Prologue of the Tragedy, which I think we should not stop in the Beginning, unless it be very troublesome, and then it may be stopt with Alexipharmacks and Aromatics, but especially by the outward Application of our Balsamick Cataplasme of Chocolate, Oyl of Nutmeg, Balsam of Cinnamon, and Spanish Wine; or of Treacle mixt with *Pulvis Pannonicus ruber* and Nutmeg, and applied. So also dry Bags made of divers Aromatics will be proper.

Then there is another Enemy, namely Spitting, which always accompanies this disease. Therefore we must greatly endeavour, that the said Salivation may continue in its Vigor, and not stop before its time, which nevertheless may be stopt, on the thirteenth or fourteenth day, with Opates, or other Paregoricks may be given once or oftener: For instance;

Take of Flowers of Panies, Cow-slip each three Drachms, liquid Laudanum Ten Grains, or more

more if there be occasion, which and other things may constantly be given in the Evening.

But before the thirteenth day Salivation must rather be promoted than stopt. And for this purpose it will be proper to give the Patient his Belly full of Small Beer to drink.

There uses to be also a swelling of the Face, which may be cured by the same Medicines; but these and other things may with more Benefit be given to Old People than to Children.

In the Confluent a Looseness troubles Children most, as Salivation does grown Persons, for Nature contrives to evacuate the Morbifick Matter by this way or that. In the Confluent one must not stop the Looseness too soon, as is usually done in the Distinct Small Pox.

In a Phrensy, which happens in the Distinct kind, Dr. Sydenham admits of Blood-letting, especially where the Face does not swell, and Pustules appear in great plenty. So he thinks likewise they should be taken up from their Beds, and exposed to the open Air: for so he has seen several cured of their Phrensy.

But if in the Confluent Small Pox the Spittle be so baked and viscid with the preceeding heat, that the Patient is well nigh choaked, as is usual on the eleventh day, a Gargarism may be used, which must be diligently syringed into the Throat: For instance;

Take of Water of black Cherries, Primrose, *Aqua Expulsiva* each three Ounces, *OxySaccharum* or

Oxymel of Squils one Ounce: Mix them. Or,

Take of Barley Water six Ounces, Honey of Roses one Ounce. Mix them.

So Bags are applied to the Crown of the Head, made of Amber, *Olibanum*, Seed of *Nigella*, Flowers of Roses, be-sprinkled with Oyl of Amber; or a hanging Cataplasim made of leaven and Amber may be applied.

When Choaking is feared, *Sydenham* is for giving a Vomit of one Ounce and an half of Emetick Wine.

But if a grievous Acrimony, and an excessive Ebullition of Blood, cause Epileptick Fits about the coming of them out, *Spiritus cornu cervi succinatus*, and volatil Salt of Man's Skull will be good for Children; but Cinnabar of Antimony will be proper for strong People, and *Specificum Cephalicum D. Michaelis*, built upon its Basis, is good. Also this Cephalick Powder of *Ludovicus* will be proper;

Take of *Pulvis Bezoardicus* one Drachm, white Amber prepared half a Drachm, Native Cinnabar one Scruple, *Laudanum Opiatum* three Grains. Mix them.

This following also deserves commendation.

Take of native Cinnabar, Man's Skull, Elks hoof each half a Drachm, *Bezoardicum solare*, prepared Emerald each one Scruple, Saffron half a Scruple, Amber Gryse two Grains. Mix

Mix them. Make a powder.

If there be Pissing of Blood, since it proceeds from the Kidneys being affected, it is cured with Emulsions of the four Great Seeds, with Trochiscs of *Alkekengi* and *deCarabe*, which must never be used in the Beginning, but in the Declension.

A Coma, which depends upon the Obstruction of the Cortical part of the Brain, when that Viscid Matter, which causes Salivation, is Coagulated in the Brain, may be cured with De-obstruents, and here all Cephalick and Martial Aperients and other gentle Volatils will be proper.

For removing the Purple Spots, the Contemperation of the blood by the aforesaid remedies will be proper.

In a Suppression of Urine, which sometimes seizes young and brisk Men, arising from a Confusion and great Disorder of Spirits, that serve for its Excretion, through the Blood and Humors being disturbed with excessive heat, Dr. Sydenham found nothing better than to take the Patient out of his Bed. Here it will be good to hold Water in ones Mouth: nor must gentle Dieteticks be omitted, such as Tincture of *Alkekengi* made with Spirit of Salt, sweet Spirit of Nitre, *Tinctura Mæbii aperitiva*, mixt with Spirit of Amber; also sweet Spirit of Nitre, mixt with Spirit of *Sal Ammoniack* and impregnated with Oyl of Parsly and other things.

If the Patient complain of a Pain at his Heart and Restlessness, by reason of his taking cold, and if the Pustules fall, or if there be a Looseness in Children, then the abovesaid Cordial Potions made of *Diascordium*, *Laudanum liquidum*, and distilled Cordial Waters will be proper.

When the Patient is upon recovery, and the Pustules are falling, when he has tasted Flesh again for a few days, that is, about the one and twentieth, Dr. Sydenham advises bleeding in the Arm, if the disease be violent; but if the Pustules be few, he rather omits it, and instead thereof gives a Purge.

Swelling of the Feet and Legs is helped by Emollient and Discutient Herbs; as leaves of Mallow, Mullein, Bay, Flowers of Elder, Melilot, Chamomil boyled in Milk.

In the coming out of the Small Pox special care must be taken of the Palat & Lungs, which because of the abundance of Blood that passes thither, & of their Membranaceous Substance, are the most obnoxious to this danger. For in them either an Exulceration is apt to follow, or the Motion is hindered, which is attended with Cheaking.

If therefore the Pustules be already come out, and fallen off, and the Urine have lost its redness, we must abstain from Diaphoreticks, and have respect to the Depuration and Purification of the Blood, for which end things that we have often mentioned will be proper. But if there be signs of the Lungs being touched, and if the purulent Matter sink to the botom, besides an exact Diet, divers Antiphthical Medicines must be made use of. We have used the following distilled Water with Success; in which we also gave a few drops of *Balsamus Sulphuris anisatus*.

Take of leaves of Betony, noble Liver-wort, Wall-rue, Sanicle, leaves of Scabious, red Poppy, Daisy, St. John's-Wort, Columbine each one handful, Roots of Colts-

Colts-foot, Fenil, *Scorzonera*, each one Ounce. Infuse them in water of Scabious, red Poppy, Burnet, Brooklime each one pound, Goats-milk two pounds. Add the Liver and Lungs of a Calf. Infuse them twelve hours, and then distil them according to Art.

Here also pectoral sulphurated, & myrrhated Aperients are proper.

Moreover, if from difficulty of Breathing and other Signs there be any suspicion, that the inner Parts are affected, we must beside the foresaid things, help them with Traumaticks of *Terra Sigillata*, Diaphoretick Antimony, and Crab-eyes. So likewise it happens, that in the State, Patients, either through the violence of the disease, or excessive Sweating, suffer a great decay of strength, in which case Corroboraters will be proper; and Tincture of Coral made with Spirit of a Stags Heart, and other gentle Cordials.

As for defending the Parts, the Eyes and Throat deserve consideration especially, lest they should be hurt with the Small Pox: for from the one Blindness may be feared, from the other Strangling. Many things are commended by Practitioners for defending the Eyes. This following is usual.

Take of Water of Roses, Plantain, Night-shade each one Ounce, Saffron one Scruple, Mucilage of Quince and Sumach-seed half an Ounce. Mix them, and anoint the Eyes therewith.

Rock Crystal also applied to the Ball of the Eye, is good against the Small Pox. Women's Milk, Goat's

Milk and Cream are good in this Case. So in the Inflammation of the Eyes *Saccharum Saturni*, with Water of Blew-bottle, &c. is good.

Oyl of white Lilies, sweet Almonds, and a little Oyl of Citron is good to preserve the Nose; or Rose Vinegar impregnated with Camphore may be given to smell to.

When the Hearing is hurt, Essence of *Cardus Benedictus*, Castor, &c. is good.

Divers things are commended for preserving the Neck and Throat, such as Gargles, Mucilage of Seed of Quinces, Line, Fennugreek, juice of Grey-fish, a Decoction of *Balaustia*, *Rob dianucum* and *Diamoron*. If a dry Cough afflict a Man, give him Syrup of Scabious, Liquorice, and Jujubs. You may also give him in his ordinary drink some Horse-dung, which by reason of its nitrous Salt is an useful Medicine. Or Sheep or Goats-dung may be given. This following is good for Burning and Sores in the Throat.

Take of a Decoction of Columbine in Wine and Water six Ounces, *Diamoron* one Ounce and an half. Mix and give it.

When the Small Pox or Measles strike in with great Anxiety; then beside the said Cordials, I highly value Saline volatils taken Inwardly. Above all I use to make choice of Essence of Myrrh, made with the vnious Spirit of Sal Ammoniack, which seldom faied me, or *Elixir proprietatis volatile*, the use of which I have found excellent in the striking in of an Itch, in the failure or undue-procedure of the *Menses* and *Lochia*. In this case Blisters will be

be proper, especially if a Suffocative Catarrh be feared, they may be applied to the Wrists and Feet, with Camphorated Treacle. In the mean time gentle Coolers and Expulives must be given inwardly.

For general Preservation Medicines of Myrrh are good, *Elixir proprietatis*, *Tinctura salutis*, Essence of Myrrh, &c.

For drying up of the Small Pox besides Internals, Externals also are proper, such as *Pulvis Specificus*

Mynsichti, *Unguentum camphoratum de lithargyro*, or *Cosmeticum Clavii*.

For taking away Redness and Spots.

Take of Water of Frogs-spawn, Solomon's Seal, white Lilies, Bean-flowers each one Ounce, *Fecula ari* one Drachm, Camphore half a Drachm, *Cosmeticum Clavii* one Scruple. Mix them, and use it.

CHAP.

C H A P. VII.

Of Intermittent Fevers or Agues, and in particular of a Quotidian.

§. I.

WE have done with Malignant Fevers; now we will proceed to Intermittents. For Fevers are distinguished into Remittent and Intermittent. It is called a Remittent, when the Fever abates: and Intermittent, when it goes quite off, and at length comes again, and in every Fit of an Intermittent coldness preceeds, wherein it is distinguished from Continual ones. For that is an Intermitting Fever, or an Ague, as was said, which, as to its Fits, does not only remit, but intermit a while; so that all the time of the Intermission the Patient is wholly free from any Fever.

The chief differences of Agues are, 1. On account of Time; one is Quotidian, which we now treat of; another Tertian; another Quartan, which must be understood Inclusively not Exclusively. There are also Quintans and Sextans; and not long since I met with a Painter at the Court of *Hesse-Cassel*, who had an Octan. 2. On account of its disposition; one is called benign, another Malign. 3. On

account of the Humors; one is called Legitimate, another Spurious. 4. On account of Complication; some are called Simple, others Compound. The Simple are, when but one Ague holds a Man; Compound, if two or more joyned or combined among themselves, invade a Man the same day.

This therefore may be the Definition of a Quotidian Ague, namely, That it is a *Preternatural Effervescence of the whole Mass of Blood every day afflicting a Man at the same Hour, with heat, cold, and thirst, arising from a febrile Ferment, that is foreign, and disturbs the mixture of the Blood.*

I said *at the same Hour*, because several Physicians distinguish a Quotidian from a double Tertian, which tho it return every day, yet it seldom returns either at the same time, or in the same manner; but we allow not of this distinction. And a Quotidian, in regard of the manner of its Generation, may be called Primary or Secondary. That is Primary, which comes without a previous Tertian, or any other disease: And that Secondary, which follows a Tertian, or some other

other disease. One is Legitimate, which is produced by a febrile Matter of the same Nature; another Spurious, which is bred of a Matter of a different kind and temper; and this is more frequent than the other.

§. 2. Part affected, or the Subject.

THE Ancients held the Heart to be the principal Seat of Agues, as indeed of all Fevers, and the Fountain of heat; and the whole Mass of Blood, or rather the whole Body to be the less principal. But in what part this Febrile Ferment is bred, and how it is communicated to the Mass of Blood and to the Heart, has hitherto puzzled many ingenious Men. Some of the Ancients hold, That the Blood Putrefies in the Mesaraick Veins; but the Circulation of the Blood evinces this Opinion to be false. Others blame the Putrefaction of the Bile in the Liver, which Opinion is doubtful; because Bile, as Bile, never corrupts; besides, the Essence, or formal Reason of a Fever consists not in Putrefaction, but in the manner of Fermentation. *Fernelius*, who is very busy about the explication of Fevers, having refuted all other Opinions, places the proper Seat of all Fevers about the *Præcordia*, Stomach, Diaphragm, Hollow of the Liver, Spleen, *Pancreas*, Cawl, and Mesentery. And so *Helmont* makes the Seat of Fevers to be in the first Ways from the *Pylorus*, along the *Duodenum*, and manifold Vessels there, the Guts and Veins of the Mesentery, to the Spleen and Liver. But these things are too

general, & the particular place is not designed: Therefore the excellent *de le Boë Sylvius* propounds another, and a newer Opinion about the Seat of Agues, well worth the consideration. He makes the *Pancreas* alone to be the Seat of all Agues, because of the Obstruction of the one or the other of its lateral Ducts; and he gives considerable Arguments for it, and proves, That the Fountain of Agues, and their mad Symptoms, cannot be better solved, than by the *Pancreas* alone. Now, tho I do not deny, that the *Pancreas* is the Seat of several Diseases; yet I have hitherto, and might very well question, whether it be the Place, Fountain and Seat of Agues, since it is from experience evident, That from all Parts, even the most remote from the Heart, something may, at some certain time, be communicated to the Blood, which is able to disturb its mixture, and produce an Ague. For I have seen a Tertian Ague caused by an Ulcer and *Fistula* in the Foot; while the *Fistula* ran there was no Ague, but as soon as it was healed up, an Ague came. Wherefore I am perswaded, that a Febrile Matter may lye in any solid part, and may at certain times be communicated to the Mass of Blood; which, as I said, upon an Ulcer tending to Suppuration, from an Obstruction in any part, may produce an Ague, inasmuch namely, as by such an Inflamed or Ulcerous part, some share of the Inflamed or Ulcerous Matter is communicated to the Blood, which passes to and again through all parts, and by disturbing its mixture, causes an Effervescence, which we call a Fever.

And

And we do not deny, but the cause of Agues may lye in the Vessels of the *Pancreas*, Stomach, Mesentery, and other remote Parts; also in the very Humors, Chyle, *Lympha*, &c. yet I reckon, that generally there is an Obstruction of one or more Vessels in the Stomach, and of the Chyliferous Ducts in a Quotidian Ague. And reason does evince as much: for in this Ague the Stomach is always observed to be weak and to swell. We may make a guess also from the *Juvantia* and *Ledentia*: for it is better cured by Stomachicks, than by any other Medicines; and it comes quickly after Eating.

The manner of an Agues coming, is generally from a particular stoppage of the Lacteal Veins and Chyliferous Duct; then the Matter in the first ways thickning, by means of Natures Propulsion being excited and proceeding to its accustomed work of Nutrition, and poured into the Heart, produces Tumults. Here two things are especially to blame. 1. The Alteration of the Nature and Substance of the Chyle, both of it self, and because of things mixt with it. 2. The Obstruction of the Chyliferous Veins; yet so as not quite to deny a passage. The Chyle therefore offends not so much in its first Qualities, as when it is over thick, clammy, tough, sharp, and acid, and lingers too long on the High-way to the Heart; and when it is communicated to it, and by consequent to the Blood, it Exagitates the Blood so long, till the excrements which it brings with it being attenuated, fly away by insensible Transpiration, and

that which cannot be conquered, is separated by proper ways. This Assertion is evident from the natural State: for after Meat we are often in our natural State taken with a slight Shivering, and sometimes we grow hot; what then must we do, if any thing Preternatural be carried thither? No wonder then, the more remote the Chyle is from the natural State, if the shaking and cold Fit be so much the fiercer. For Viscid, Glutinous Meats, Fish, &c. occasion Fevers, Crudities and Obstructions. This is apparent by the effects; for the Sick always complain at the coming of the Fit of a Pain and Tusion about their Backbone; because *Pecquet's* Chyliferous Duct runs along it, and Loathing and Vomiting show, that the fault is in the first Ways. Besides, Fasting alone often corrects the Excess, and removes the Ague, for with such the Chyle is, such is the Blood, and with such the Blood is, such is a Man's Health.

§. 3.

THIS Ague begins ordinarily with coldness and shaking, which lasts about an Hour, sometimes more, sometimes less; it afflicts one every day, and intermits a little; it comes quickly after Eating; when the cold is off, heat follows, differing according to the Constitution of the Body, sometimes violent and sharp, sometimes moderate and mild, sometimes longer, sometimes shorter, with loss of Appetite, Oppression about the Heart, Pain in the Head, Back and Loins, Thirst, Restlessness

ness, want of Sleep, Phrensy, frequent Pulse, Gaping and Yawning, and several other Symptoms usual in Agues. After it has lasted a while, it goes off ordinarily with a Sweat more or less. I found this Ague Mortal in a lying-in-Woman at *Hanover*. The Urine is not always white and thin, but remarkably tinged with red.

§. 4. Cause.

HAVING touched on these things, let us pass to the Cause of a Quotidian Ague. The Old *Galenists* affirm, that this Ague is bred of Phlegm putrefying in the first Ways; and therefore they say, That all things, which are able to gather Phlegm in the Body, may be causes of this Ague, such as a cold and moist Constitution of the Inwards, old Age, Child-hood, continual Cramming, a sedentary Life, Autumn or Winter time, all cold and moist Meats, long Sleep, &c. And they make the four Humors to be the cause of all Diseases.

The cause of the Fits in Agues is explained of the *Galenists*, by the nature of the Humor and its Seat. They place the Mine or *Focus* of this disease in the first Region of the Body, they make the Matter to be Bile, Phlegm and Melancholy, and as these Humors putrefy sooner or later, they hold, that the Ague Fits come once a day, or not so often. But the Circulation of the Blood refutes this Opinion.

Some fly to the Stars, others to Similitude of Seeds, and to an easy or difficult dissolution. But since these things have been suffi-

ciently refuted by others, I do not hold my self obliged to write *Iliads* after *Homer*.

§. 5.

According to *Paracelsus*, a Mercury, dissolved with an impure Salt, is the Cause.

§. 6.

*H*Elmont attributes the whole business to a corrupt Acidity, wandering beyond the bounds of the Stomach, and so irritating the *Archæus*. He says moreover, that the Fever is not only an expulsive endeavour, but part of the *Archæus* disordered through Indignation against the present hated Guest, who, according to him, is the occasional Cause.

§. 7.

According to *Willis*, the cause of this Ague is an acid and crude effervescent Blood, like Common Bakers Leven, which is able in an Hours time to transmute three parts or there about, of the Nutritious Juice into a certain effervescible Matter. Thus he ascribes the Cause to a peculiar Dyfcraſy of Blood. He says, this Ague generally follows a Tertian, and he gives a reason; because, when the vital Spirit is most of it flown away by the frequent Deflagration of the Blood, and the Blood is thereby weakned, it does not so well concoct & mature the Nutritious Juice, but perverts it almost all into a fermentative Matter. And he says, there is great affinity between a Tertian and this;

for a Tertian often turns to a Quotidian, and this into a Tertian. He adds, That this Ague, besides some fault in the Blood, has infirmities of the Bowels joyned with it; for the tainted Blood may easily fix its Recrements, which it has insensibly gathered, to the Bowels, while it passes through their windings. Hence in a Quotidian Ague he observed oppression of the Stomach, Tenseness of the *Hypochondria*, obstructions or swellings sometimes of the Liver, sometimes of the Spleen or Mesentery: but then they are not the cause, but only Morbid products.

Here also we may enquire, what, in our Author's opinion, may be the cause of the Intermiſſion, and of Fits at set times in Agues? He says therefore after the first Moment, wherein the Nutritious Juice is not assimilated with the Blood (tho its Particles, mixt with the Blood, are as then circulated with it without any great Tumult or Perturbation; and so on, till the Mass of Blood is filled with them to a Turgescence) then immediately it bubbles up and begins to ferment. He compares it to new Bottled Ale, which if it be so close shut, that nothing can evaporate, at first it is kept in the Bottles, without fermentation or violence; but afterwards the Mass of Liquor grows turgid with the *Effluvia*, that are still kept in, ferments notably, and through the violence of the Fermentation often breaks the Bottles. He says also, that this happens at a set time, and at so many Hours distance, as in an Ague the Liquor rises to an height of Turgescence.

He gives the reasons and causes

of the Intermiſſion, and set coming of the Fits. Intermiſſion follows; because, according to him, all the Morbifick Matter is spent at one Fit; and so, till a new one be supplied, an Apyrexia must of necessity follow. And the reason, why the Fits come at set distances of time, according to him, is, because at set Hours the Nutritious Juice meets with the Blood in the Vessels, which growing to a Plenitude and Turgescence, causes a Fit on that day, and when that is ended, at the same distance of time sufficient Matter is gathered for the Fit following. Hence, if Patients be abstemious, the Intermiſſion is the longer protracted.

And as for the cold Fit, which comes before the hot in Agues, he says, it arises, when the Particles of the Nutritious Juice encline from a State of Crudity towards Maturity, and attain it not, but contract a remarkable Acidity, whereby they prick and vellicate the Nervous Parts; and so cause a Sense of cold.

In a Quotidian Ague, according to our Author, the whole supply of Nutritious Juice is perverted into a Febrile Matter, by reason, that is, of a great taint in the Blood; hence in that space of time, wherein Concoction ought plenarily to be finished, which is usually in four and twenty Hours, this Matter rises in Turgescence, and causes a Fit every day. Therefore Patients are very weak after a Quotidian: for in every Fit, as much of the Nutritious Juice as turns to the Food of the disease, so much strength does the Body lose.

§. 8.

Sylvius reckons the cause of Agues, to be an Obstruction made in one or more of the lateral pancreatick Ducts, by too much Phlegm carried thither and detained there, which usually happens, when Phlegm is driven with the rest of the Blood into the *Pancreas* by Circulation, and with the Pancreatick Juice gets into the Glands of the *Pancreas* and its lateral Ducts, in which either through some fault in the Part it self, or external cold, it thickens and coagulates, in such a manner, that it obstructs one or more of the lateral Ducts. The *Sylvians* ascribe the Fits of Agues to the Stagnation of the Pancreatick Juice in one or more of the lateral Ducts through Obstruction, which endeavours to make its way, sometimes sooner, sometimes later, through the obstructing Phlegm, encreased in its Acrimony, and not only produces a vitious Effervescence in the *Intestinum tenue*, but is dispersed every day, especially to the Heart, and causes a preternatural frequent Pulse. And they endeavour to prove, that a Coagulation of the Pancreatick Juice may happen, by several Experiments made both in Men and Beasts.

They hold, That the cause of the Intermission and Fit is in this manner following. The Pancreatick Juice by Stagnation is made sharp, and so by penetrating the obstructing Phlegm, it makes its way through it to the common Duct, till, when all the Juice is poured out, that which was formerly retained, the foresaid Phlegm still clinging to the sides of the Ducts,

by degrees closes up, whereupon the Pancreatick Juice is gathered again for another Fit, which by continuance is again made sharp, pierces the Phlegm again, and raises a new Fit, and the Fits return at the same distance of time, as often as there occurs obstructing Phlegm of the same Quantity and Viscidity, with a Pancreatick Juice of the same Acidity and Acrimony.

And the reason why the Fits return, sometimes every day, sometimes every third day, and sometimes on the fourth day, they hold to be, partly the difference of the Stagnating, Pancreatick Juice, and partly the difference of the obstructing Phlegm.

The cause of the inequality of the Fits in Agues, according to them, is, inasmuch as the obstructing Phlegm is more or less viscid, or all the Pancreatick Juice more or less sharp, and that through the different use of the six Non-natural things. And hence they give a reason, why Quotidian Agues turn to Tertians, and Tertians to Quartans, &c.

And they say, the cold Fit in Agues has its rise from an acid Pancreatick Juice; and the hot, chiefly from too hot a Bile. And the reason, why the Fit of an Ague generally begins with cold, and ends with heat, is; because the Pancreatick Juice being made over sharp by tarrying in one or more of the lateral Ducts, after it is run into the *Intestinum tenue*, does there with the Bile produce such an Effervescence, wherein the Pancreatick Juice, being predominant in its Acidity, sends sharp Vapors every way, which are troublesome with a Sense of cold; these,

when they come to the Gall Bladder, by their Acrimony sollicit it to contract it self; whereupon the Bile, gushing out in a larger quantity than usual into the *Intestinum tenue*, drowns the Pancreatick Juice, and so produces such a vitious Effervescence with it, wherein the Bile bearing Sway, causes heat.

Thus *Sylvius* himself deduces the cause of a Quotidian Ague from the Obstruction of one or more of the Lateral Pancreatick Ducts, which occasions a vitious Effervescence of the Bile and Pancreatick Juice in the *Intestinum duodenum*. And, to descend to particulars, in a Quotidian Ague, according to him, the obstructing Phlegm is less in quantity, and not so glutinous, that is, one that returns once in four and twenty Hours.

§. 9.

O THER Mens Opinions about the Causes of Agues being thus premised, we will now give Our own. An Ague therefore, in our Opinion, rises, when there is an obstruction in any part of our Body, so that the *Serum* or any other Humor lies still behind it, which when it ripens, and ferments, distends the adjacent Parts, and so presses upon the Obstruction, that it flies open, and so the Humor, which had so long stagnated, is carried by the Lymphatick Vessels to the Blood, and by disturbing its Mixture, causes a Fever there. This Obstruction is usually in the Chyliferous Ducts, in which the Chyle often stagnates, and by tarrying is made over acid

and viscid. Hence the Febrile Matter is not always poured into the Blood; but as in Catarrhal De-fluxions a Fluxion is raised, when so much Excrement is gathered, that Nature can bear no more; so in Agues the Fit returns, when the turgescient Matter sollicitates its Diffusion again. In a Quotidian therefore the peccant Matter sticks in the solid Tubes of the Stomach, and there is a viscid Chyle in the Guts, because the Lacteal Veins are obstructed: for there is always an oppression of the *Præcordia* in this Ague, which shows, that the Stomach and Guts are overcharged with Phlegm, or that Phlegm sticks among the Membranes: For there may be several causes of one effect.

As to the return of the Fits, it is usually in the Manner following. There are Valves in all Parts of our Body, especially in the Back, because many Nerves are there, and there are more in a Nervous Part, than in a Carnous. Now, when upon any occasional cause, an Humor separated from the Blood, is carried to any solid Part, so that it breeds an obstruction in the foremost Part, it will stick there; for it cannot go further forwards, because of the Obstruction; and backwards it cannot return because of the Valves. This Humor at length, being by Stagnation made sharp, does then begin to ferment, and to take up more room (as one may observe in a batch of leavened Bread) so that at length it breaks Prison, is communicated to the Mass of Blood, raises the like Fermentation there, and so causes the Fit of an Ague. This peccant Humor cannot all be expelled,

pelled, but some reliques will remain in the part, and then presently as another Humor is moved to that part, it begins to ferment with these reliques, and then breaking Prison again, it causes a new Fit. According to the different Constitution of this Humor different Agues arise. Thus, if the Humor be viscid, it finishes its Fermentation, and is carried to the Blood once in four or six and twenty Hours, wherefore it is called a Quotidian Ague. These things also may be understood of a vitious Chyle, if it be too Acid by stagnating, because of the obstruction of the Chyliferous Vessels, and so communicated to the Blood, hereupon a Fit is raised, which ceases so long, till another vitious Chyle is bred. We can mechanically demonstrate the cause of the Blood's growing hot by wet Hay, an equal quantity whereof being put into several Receptacles, allowing the same Circumstances to them all, they will begin to grow hot at the self same Hour, concerning which see that diligent searcher of Nature *des Cartes princip. Philos. part. 4. §. 92.* For in the very same manner, whenever some Particles, that are thin and apt for Motion, produce an obstruction in a Tube, be the cause what it will, it cannot otherwise be, but that upon the approach of other Particles, bringing another ethereal Matter, these Particles must undergo another change, till they attain Corruption, or rather Maturity, and so being fitted for Motion, joyn themselves to the Humors, as they pass by, and coming to the Heart, produce a disturbance as well in the Motion as Mixture of the Blood.

And seeing some Fewel, swimming upon some certain subtil Matter, always remains, if by the Pores, opened to that very end, a new Matter arrive there, by the Agitation of the Particles among themselves, it will be altered again, and will ripen in an equal time, and so cause a new Fit. I hold therefore, that a Febrile Matter is not bred in the Mass of Blood it self, nor preexists in it, but is communicated from some place else at some certain time, by the Tube of a part, whatever the part is, and produces such an Effervescence, by reason of the inequality of Particles entering the Heart, and peccant in Motion and Mixture, lasting so long, till the salvage Ferment is discharged by Sweat, or some other way. And these things must be understood of Agues, which have their rise either from the Air, or Internal Inflammations, or Ulcers, &c. But ordinarily, as we said before, these Agues arise from obstruction of the Chyliferous Ducts, and Stagnation of the Chyle; the more plentiful therefore, thick and acid this is, the longer the ague Fit will be. The Chyle in a Tertian is too sharp, in a Quartan too acid, and in a Quotidian too viscid; but the Sharpness and Crudity is less. Nor can it be denied, that Nature herself, when she has gone these rounds several times, does, as it were, accustom her self at the usual times to get rid of the Matter, if there be but the least remaining; as they that use themselves to Let Blood, or Cup, if they omit doing it, feel Signs of it.

As to the shaking, or cold, which Patients feel in the Beginning of

the Fit, it is produced generally by the disposition of the Humor or Chyle, according as it is more or less sharp, or acid, or viscid, and so comes not manageable to the Blood. For these Particles by sticking to the Membranes and Fibres, and vellicating them with their Acrimony, cause shaking. And because a Man never observed shaking to proceed from any thing but Cold, he thinks that this also proceeds from Cold, which notwithstanding is not always true; because such as lye with them, complain of a troublesome heat and burning in them: It is evident also from this, that always while the cold Fit lasts, they are troubled with extream Thirst, which cannot be in any other coldness. Afterwards they feel heat, that is, when the Humor is much moved, and grown sharp.

But if the peccant Matter, carried to the Blood, can be cut and attenuated, so as that it can fly away by insensible Transpiration, then the Fit is at an end, and the Fever conquered; which Sweats, when they flow abundantly in the declension of the heat, it is a good Sign; for when the Febrile Matter is so cast out, the Blood returns to its sedate Motion, and the whole Animal Oeconomy is perfectly restored.

The excellent *Hoffmannus*, as well as I, holds, That there is something convulsive in the shaking Fit: for the Nervous and Membranaceous Fibres are vellicated.

The Fits sometimes anticipate, sometimes postpone, as well on the score of Nature's being strong or weak, as of the Humor or Chyle.

§. 10. Prognostick.

NOW that we have viewed the cause, we will proceed to the Prognostick. The Issue of a Quotidian Ague is not very hazardous, but of long continuance, slow and pertinacious; so that sometimes it lasts six, seven Weeks, or longer, before it goes quite off, yea, I have known one last above half a year. It is possible also for it to be mortal, as I observed before in a lying-in-Woman at *Hanover*. It sometimes ends in a Consumption; often in a Dropsy; sometimes in a Coma or Lethargy. There is also a general Prognostick for Agues in 4. *Aph.* 43. of *Hippocrates*. *Fevers, in what manner soever they intermit, signify no danger.* Nor are Agues dangerous, if so be they are rightly treated.

§. 11. Dietetick Cure.

THE Diet must be thin and inciding.

The Air must be hot and dry, either by Nature or Art.

The Meat must be easie of digestion, because of the weakness of the Stomach; Spoon-meat and Barley-broths are proper, and Birds, and Pullets, roasted rather than boyled.

The Drink must be small, yet Wine sometimes mixt with Spaw-waters may be allowed, the Belly must be loose, and the Passions of the Mind moderate.

§. 12.

THE Dietetick Cure being thus briefly made known, the next thing is the Pharmaceutick Cure. And first let us see what Indications the *Galenists* propose to themselves in the Cure of this Ague. They order first, That the Humors be prepared, and the Obstructions caused by Phlegm opened, to which end they commend all things, which have an attenuating and an inciding virtue. They inculcate, That in a Quotidian Ague care must be taken of the Stomach, and therefore they order, that the Patient be refreshed with strengthning things, both inwardly and outwardly. They extol a Cataplasim of Mint and Wormwood, and other Aromaticks. When the Matter is prepared, they often Purge. *Zacutus Lusitanus* prescribes two remedies, where-with he boasts how he has cured the most contumacious phlegmatick Agues. One of them is the following Decoction of Chamomil;

Take of Flowers of Chamomil three Pugils, Sea Wormwood leaves two Pugils. Boyl them in three pints of Water, to the consumption of half. Add to the Colature of white Sugar four Ounces. Let the Patient take five or six Ounces every day in the Morning.

The other is a Decoction of *China* and *Guajacum*, given for five and twenty days.

§. 13.

THE *Paracelsists* & *Helmonts*. will cure all Agues, especially a Quotidian, with their *Arcana*, in four days, without Blood-letting. They allow Wine, and maintain, that they can cure all Fevers with a sweating Medicine, that is, *Mercurius Diaphoreticus*, which incides, attenuates, dissolves, and wasts the occasional cause, wherever it is, and this without Sweat.

Their other Medicines are Salts of Cephalicks, Majoran, Rosemary, and other things, which must be Alkalies, and given on a fasting Stomach before the Fit. They undervalue all Galenical Remedies, such as Bleeding, Purging, Blisters, Clysters, &c. as insignificant things. Concerning these things see *Grembs* his *Arbor Ruinosa*.

§. 14.

WHO will have a Quotidian Ague cured like a Tertian. Only in a Quotidian more regard must be had to the Stomach, that is, the Humors lodged in the Stomach must be discharged; the Obstruction of the *Viscera* must be opened, the weakness strengthened, and withal, we must do what we can, that the Dyscrasy of the Blood may be corrected, and the Ague Fits stopt. Therefore for robust People, and such as have not lost their strength, he commends Vomits above all things; nor does he exclude repeated Purges, that the daily product of Excrementitious Matter may be carried off. Beside these things,

things, he highly extols digestive Remedies; and De-obstruents, which restore the Ferments of the *Viscera* and Blood, and correct their Dyscrasies, must be often given. For which end he praises Salts of Herbs and their Extracts, Mineral acid Spirits, and sometimes Chalybeates. When the Stomach is very moist, he orders the following Mixture to be given.

Take of *Aqua magistralis lumbricorum* two Ounces, *Elixir Proprietatis* six drops. Mix and give it.

And he advises the applying the Fomentation following to the Stomach.

Take of leaves of Sea Wormwood, lesser Centaury, Southernwood each two handfuls, Gentian-root one Ounce. Cut them and boyl them in as much White-wine, as will suffice for a Fomentation.

After this Fomentation, he orders some toasted Bread to be Dipt in the Liquor and applied.

Besides, he will have divers Ferbrifuge Plaisters applied to the Wrists.

§. 15.

SPlenius in the cure of Quotidians has the following intentions. First, That the obstructing Phlegm, which is more or less glutinous and coagulated, may be incided and dissolved, and if possible, carried off. Secondly, That the Acidity and Acrimony of the Pancreatick Juice may be allayed Thirdly, That the vitious Effervescence of it and the Bile in the Small Guts may be hindred, and amended.

For inciding the obstructing Phlegm, he commends Aromaticks, and all volatil Salts; but so used, that the whole Body may be hot at once, either with Motion, or a Bath, or Cloths. He cries up the following Mixture, as good for a Quotidian in Melancholick and Phlegmatick People.

Take of Water of Parsly two Ounces, Fenil one Ounce, *Aqua theriacalis simplex* or *Vitæ Matthioli* one Ounce and an half, volatil Salt of Amber one Scruple, Syrup of *Carduus Benedictus* one Ounce. Mix and give it.

But in a Bilious Constitution, and therefore in a Tertian, he commends this as useful.

Take of Water of Fumitory three Ounces, Sal Ammoniack or Tartar vitriolated one Drachm, *Antimonium Diaphoreticum* half a Drachm, Syrup of Fenil one Ounce. Mix and give it.

In Phlegmatick and Bilious Natures he commends this following.

Take of Water of *Carduus Benedictus*, Cichory each one Ounce and an half, *Aqua theriacalis simplex*, destilled Vinegar, each six Drachms, Crabs-eyes powdered half a Drachm, Syrup of the five opening roots one Ounce. Mix, and give it by Spoonfuls.

For the redounding Humors, which cause obstructions, he advises Vomits. To which end he has given with great success a Vomitory *Sapa* made of Antimony. He holds also, that the Humors should be purged off by Stool.

For correcting the preternatural Acidity

Acidity and Acrimony, he has with great success used volatil Salts and Aromaticks, not neglecting Opium.

In excessive Cold, an usual Symptom of Agues, he advises to put a few drops of Oyl of Cloves in some Antifebrile mixture. For allaying the heat, he prescribes divers Juleps and Apozems; of which in their place.

§. 16.

OUR Cure also is grounded on Indications; which are, That the Febrile ferment may be removed, not only out of the Mass of Blood, but out of its Tubes, especially of the Stomach, together with its morbid product; that the Viscidity, or Acidity, or Acrimony of the Chyle may be corrected, and the Obstruction removed; then the Effervescence of the Blood must be stopt, the most Urgent Symptoms obviated, and strength restored.

The Febrile ferment in Agues, especially in a Quotidian, cannot better be carried off, than by Vomits and Purges, which if they be given before the Fit, and on the first days, are excellent Remedies. If the disease be radicated, and the Stomach stuffed up, we judge, a Vomit should be forborn, and a gentle Purge rather given. For the Stomach is mightily weakned by taking of Vomits. Vomits, as we said, are good in the Beginning (unless one be Consumptive) especially where there is a Nauseousness, Vomiting, Oppression at the heart. Among Vomits we commend such as are made of Antimony: but they must be given only to strong Peo-

ple, because we must always have regard to the Tone of the Stomach. It is better therefore at the coming of the Fit to give Specificks against an Ague, and often to mix Purgatives with them; that so the first ways may be cleared of the Excrements. Then these Agues are easily cured by correcting, which is done three ways, chiefly by Dilution, Precipitation and Incision; though the first be proper to Sharpness, the second to Sourness, and the third to Viscidity. The Diluters are a Decoction of Barley, Whey of Goat's Milk, &c. Precipitants are of use in these Agues, but they must be fixt and Absorbent, such as Crabs-eyes, and Diaphoretick Antimony. But upon my own Experience, I prefer Irish Slate above all others in Agues: for the Febrile Effervescence is best stopt by this Precipitator alone. And this Method will be the safer, when the Fever is over, if the precipitated Matter be carried off by some proper gentle Purge: For it does not much disturb the Blood, but reduces it to its pristine temper and consistence. Gentle Catharticks are either infusions of leaves of *Senna*, *Carthamus*, and *Agarick*, adding always Febrifuge and bitter things. Incisers are hot and volatil, such as *Carduus Benedictus*, Pepper, Mustard, Wine, Oyl, Cloves, Camphore, Treacle, Salts and volatil Spirits. For all bitter things are proper in this case, because they strengthen the Stomach, and drive away every Enemy (for I have seen this Ague removed only by compound Essence of Wormwood) whether they be given in form of a Decoction, or Physick Wine, or Tincture, or *Elixir*, as the lesser Centaury,

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Centaury, Wormwood, Southernwood, *Carduus Benedictus*, root of Gentian, Elecampane, &c. And medicated Wines may be made of these, adding some Purgatives, especially leaves of *Senna*, which often do the whole business. And so do all Aloeticks, as *Elixir proprietatis volatile absque acido paratum*, *Tinctura salutis*, &c. Clysters also may now and then be given to tender Persons, as there shall be occasion, which are made of lesser Centaury, Wormwood, and other things. And Sudorificks, which are here to be used, ought to consist of Salts and Minerals. An Antifebrile, through the Patient's negligence, not taken before, but in the Fit, sometimes makes the Fit twice as strong, as otherwise it would have been; but then he misses the next Fit, and the reason seems to be, because by this means the Matter of the whole mischief was washt off, and all carried out of its lurking hole into the Blood, which made that Fit so much the more violent. At length in the End, and in the Declension of the Fit, we often use (Nature shewing us the way) to give Sudorificks, that the Febrile Ferment may the more commodiously be expelled by large Sweating, in which case they commend *Bezoarticum Minerale*, all fixt Antimonials, Salt of Sal Ammoniack, Harts-horn, *Scordium*, lesser Centaury, *Carduus Benedictus*, Wormwood, *Mixtura Simplex*, Treacle Water, and several other things. Out of the Class of Precipitants, we refer hither Coral, Pearl, Ivory, Egg-shells, Alum, Vitriol, Nitre, Jesuits powder as a Specifick, root of Tormentil, Yarrow, *Specificum Antifebrile Crol-*

lii, Riverii, Mynsichti, Kergeri. *Arcanum Duplicatum* is excellent good, which is also de-obstruent. For the sake of Juniors take these Receipts.

Take of *Arcanum Duplicatum* one Scruple, prepared Crabs-eyes half a Scruple. Mix them. Make a Powder. Or,

Take of Ivory prepared without Fire one Scruple, *Antimonium Diaphoreticum* half a Scruple, Myrrh six Grains. Mix them. Make a Powder. Give it thrice before the Fit. Or,

Take of true Jesuits Bark one Drachm, Salt of Tartar half a Scruple. Mix, and give it with Wine, before the Fit.

Radix Cava is also commended, if it be taken, from half a Drachm to a Drachm. *Tachenius* commends Crabs eyes dissolved in Spirit of Salt of Tartar, and given before the Fit. Or,

Take of *Pulvis Bezoarticus*, Cinabar of Antimony each twelve Grains, volatil Salt of Harts-horn, white Amber each two Grains. Mix them. Make a Powder.

And so Liquids are not without their deserts, such as Spirit of Salt, Nitre dulcified, Essence of *Carduus Benedictus*, Wormwood, lesser Centaury, &c. which ought to be given two or three hours before the Fit in some proper Vehicle; for the whole stress of the business lies in the giving, that the Medicine may arrive at the Stomach, and Heart, or Tube, at the very Moment, when the febrile Matter

ter begins to stir in the Blood, and before the Chyle be poured into the Blood. Here are Prescriptions.

Take of Essence of Wormwood, *Elixir Febrile Mynsichti* each one Drachm. Mix them, and give forty drops before the Fit.
Or,

Take of *Aqua Febrifuga*, Water of *Carduus Benedictus*, each one Ounce and an half, Spirit of Nitre dulcified, *Laudanum Opiatum* one Grain and an half, Oyl of Cloves two drops (especially where cold is violent) Syrup of Orange Pill six Drachms. Mix, and give it by Spoonfuls before the Fit.

And if the Stomach and Belly swell very much, give the following Pills.

Take of extract of Gentian, Birthwort, Elecampane, Lignaloës, *Carduus Benedictus*, lesser Centaury each half a Scruple, Salt of Wormwood, Ammoniack each one Scruple, *Crocus Martis aperitivus* half a Drachm, destilled Oyl of Oranges, Fenil each three drops. With *Elixir Proprietatis* make Pills, fifteen or twenty for a Dose.
Or,

Take of the remainder of Spirit of Sal Ammoniack half a Scruple, Vitriol of Mars thirteen Grains, Jesuit's powder one Drachm. Mix them. Make a Powder for three Doses. Or,

Take of Salt of Wormwood, lesser Centaury, *Carduus Benedictus* each one Scruple, Ta-

marisk half a Drachm. Mix them in a Stone Mortar, with as much Spirit of Salt as they will imbibe. I should add of Tartar two Drachms. Give half a Drachm, or two Scruples for a Dose.

They must not be too free in cooling Juleps; for hereby their Stomach and Belly swells. Let them therefore drink small Beer, adding a little Wine, or a few drops of Spirit of Nitre dulcified. Spirit of Tartar, freed from its Water, is able to do wonders in this sort of Agues, and it may be cured with this Spirit alone. Opiates also must not be neglected here, especially *The-riaca Cælestis*. I use to mix Jesuits Powder with Purgatives, or, if there be occasion, with Sudorificks, and give them towards the latter end of the Fit. I know how to make an antifebrile martial Medicine, which will never fail you in any Ague. For in opening the Tubes, and sweetning the acid Matter, martial Medicines do the business. Fixt Salts are best prepared with Vinegar. Oftentimes in this case *Mercurius dulcis*, mixt with other Specificks, is the only relief, camphorated Medicines, and Decoctions of the Woods are highly valued. Diaphoretick Powder made of Antimony will help; in defect whereof *Specificum Stomachicum Poterii* will be proper. When the Head is heavy, and the Stomach loaded with Phlegm, *Saccharum Saturni*, or *Lapis Prunella* may be given, which by qualifying the heat create a Stomach. And here our advice is to abstain from Blood-letting, unless there be a great *Plethora*. For the Essence of an Ague consists not in a hot Intemperature, that it should require

require taking away of Blood, because the heat is only an Effect; but the Matter lies in the Tubes and Chyliferous Ducts,

Among Externals we reckon this following Febrifuge Plaster of ours.

Take of *Galbanum*, Sal Gemm, powder of *Tormentil*, Shining Soot of the Chimney, leaves of *Shepherds-Purse* each two Drachms, *Camphore* one Drachm and an half, with a sufficient quantity of *Turpentine*, *Matthiolum* his Oyl of *Scorpions*, *Venice Treacle* each one Drachm and an half. Make Plasters for the Wrists.

Febrifugum Strobelbergeri and *Mynsichti* will do good.

Styptick and Astringent Herbs may be bruised, and applied with Vinegar to the Pulses; to which Empiricks use to tye Paper or Flax. *Camphore* also may be hung about the Neck. And divers things may be outwardly applied to a weak and swollen Stomach. The following Bag will be proper;

Take of Barley sprouting two handfuls, *Chamomil Flowers* one handful, Seed of *Cummin* bruised one Ounce and an half, *Coriander* two Drachms, common Salt one handful. Mix them and make a Bag.

Which may be sprinkled on the outside with some destilled Carminative Oyl. Spirit of Wine or Balsam of *Peru* may be applied to the Back-bone, or to the Wrists and Temples; so may Silver-weed, Cobwebs, &c.

Or divers Carminative Oyls, Spirituous Waters, of Mint, Treacle, *Camphore*, &c. In this case also *Willis* his Potion of two Drachms of *Aqua magistralis lumbricorum*, and a few drops of *Elixir Proprietatis* will be proper.

As to the Cure of Symptoms of Agues, it may be found in the end of this Book.

Strength must be recruited with convenient Cordials and Restoratives, of which I shall treat in another place.

C H A P. VIII.

Of a Tertian Ague.

§. I.

A MONG Agues a Tertian is the most common, which often resembles Continual Fevers, and according as it is attended with innumerable sorts of Torments, so it is sometimes more, sometimes less violent. This Ague is called a Tertian, not because it comes at the distance of three days; but inclusively from the Day wherein one Fit comes, and the third after when it returns, that is, once in forty eight Hours. It may be described to be a preternatural Effervescence of the whole Mass of Blood, afflicting the Patient every other day with the Head-ach, Thirst, Cold, and Heat afterwards, &c. caused by a Febrile Ferment, coming from the Tubes, especially of the Liver, and the Chyliferous Ducts, which disturbs the mixture of the Blood.

This Ague is twofold, Legitimate, and Spurious. That is called Legitimate, which of it self ends at the fifth, or sixth, or at most the seventh Fit, with some Critical Evacuation, but generally by a Translation of some serous and sharp Humor, which they call Bili-ous, into the Face, Lips, Legs, Ears, and sometimes the Tongue, Palate, and elsewhere. That is called Spu-

rious, which lasts longer before it be quite over. I knew a Woman at *Hanover*, who had it seven whole Weeks; and it decreases so slowly, that it cannot suddenly be removed.

Upon account of Complication, one is called Simple, another Compound. That is Simple in which but one kind of Fit comes; that Compound in which there are several. Sometimes a Tertian is Epidemick, which neither spares Age, Sex, nor Constitution; but takes Cholerick Persons most, as I have often observed. This Ague is frequently joyned with the Scurvy, &c. is therefore called a Scorbutick tertian, which the famous *Ettmuller* observed to come without any hot Fit.

§. 2. *Part affected.*

IT is well known with what fierceness Authors contend about the Subject of a Tertian Ague. Some say the Blood putrefies in the Mesaraick Veins, others accuse Putrefaction of Bile in the Liver, others about the *Præcordia*; some place the Seat of this Ague about the Stomach, several about the Cavity of the Liver, and many will have it about the *Pancreas*, Cawl, and Mesentery. And We hold, That the cause of Agues may reside in any solid Part whatever, even in the Fingers,

Fingers, and so may be communicated at Intervals to the Blood, but especially in the Chyliferous Ducts: And tho I do not deny but a Febrile Ferment may lurk in the Tubes of the *Pancreas*, Mesentery and other Parts; yet generally it comes from the Obstruction of a Tube or two in the Liver, and especially from the Obstruction of the Chyliferous Ducts, as the Ancients hold, and reason evinces. For the Jaundice is apt to come upon a Tertian Ague; and there is often a pain in the right *Hypochondrium*, with a dry Cough. All which things happen upon the obstruction of the Tubes, whereupon the Bile not being separated, is apt to breed the Jaundice; or being carried to the Guts, to produce the Colick, Looseness, and other Ails.

§. 3. Diagnostick.

AS to the Diagnostick Signs, this disease is obvious to the Eyes, and needs no curious Search. It begins ordinarily with a coldness and shivering, which last about an Hour, sometimes less, sometimes more; when this is gone, heat follows more or less according to the Constitution of the Body, with Restlessness, Loathing, and Vomiting of bitter stuff, by reason of the ascent of bilious and sharp Humors, which vellicate the Nervous Orifice of the Stomach, a Spasmodick Vellication of the Gall-bladder preceeding: For Patients Vomit up the regurgitating Bile and other ill Juices, with violent straining, and in great quantity. And this vellication proceeds from a disorder of the Animal Spirits, which

being disturbed may easily cause Convulsive Motions.

Bitterness in the Mouth attends this Ague, from bitter Particles conveyed thither out of the *Serum* by the Glands, or rising out of the Stomach from Bile, like a Vapor, to the Jaws, and then to the Tongue; which bitter Particles do so infect the Meat and Drink, that the Aguish Persons, not dreaming of such an Humor's being communicated to the Tongue, complain that their Meat is bitter. For the Tongue is of a spongy and porous Nature, so that it is able to quench Lacca, Wax, Pitch and other things set on Fire, without any harm. In this Ague you shall always meet with a pain in the Head and Loyns: The reason is, because in such a heat the Pores of the Arteries are very much dilated, so that the acid, cutting and pungent Parts being squeezed out of them, are lodged sometimes in the Loyns, sometimes in the Head, and produce by their violent Motion a Solution of Continuity, and Pain depending thereon.

A Phrensy is often troublesome in this case, which arises, because the Animal Spirits ramble beyond their Bounds, fortuitously, this way and that, without any determination in the Brain; and by their proper Motion are carried to open some of its Pores, in the same manner, as they used to be opened formerly at the presence of Objects.

By reason of these disordered Spirits, Patients are troubled with continual Watchings. And an unquenchable Thirst, as an ordinary Symptom of this Ague, arises from Saline and bitter Corpuscles

pulses carried to the Jaws.

The Urine is red and turbid, because of the Salt and Sulphur, which are separated by the violent Motion of the Blood and other Humors in the Reins, and these being mixt with some Terrene Particles, render the Urine very high coloured

About six, seven, or eight Hours after, Sweat follows, when the heat is over, and the Pores are open again, so that the sharp and hot Humors, not duly, but only confusedly mixt with the Blood, may be forced through them, with the *Serum*; and if the Chyle be reduced, all is at quiet, till new Matter appears, and then the Fit returns.

§. 4. Cause.

HAVING viewed the Symptoms, we must proceed to the *Ætiology*. First of all, the *Galenists* accuse Bilious Humors gathered in the Liver; but especially in the Gall-bladder. Therefore in a Tertian they blame a hot and dry Intemperature, Youth, hot Constitution of Air, Care, Fasting, too hot a Diet, and excessive Motion. They say also, that such as have an^a hot Liver, and who by Surfeiting, and a bad Diet have contracted many Crudities, upon the Mixture of the Crude Humors with the Bile, are subject to Tertian Agues.

§. 5.

ACCORDING to *Paracelsus* the cause is a Fetid Sulphur, with a dissolved Mercury, and an impure Salt, gathered in the region of the Liver.

§. 6.

*H*ELMONT attributes Agues to a corrupt Acidity, wandering beyond the bounds of the Stomach, which irritates the *Archæus*.

§. 7.

ACCORDING to *Willis* the cause of a Tertian Ague is a certain Nitro-Sulphureous Matter, wherewith the Mass of Blood is sated to a Turgescency, just as new Bottled-Ale works. If this Nitro-Sulphureous Matter, which has much Acrimony in it, be diffused all over the Body, it velli-cates the Nervous Parts, and deadens the heat and Vital Spirits, whereupon Chilness and Shivering, Vomiting, &c. ensue; then, as the Vital Spirits and Innate Heat prevail again, this Effervescent Matter in the Blood is subdued; and then by means of Respiration a violent heat is diffused all over the Body, which must of necessity be attended with Sweat and other Symptoms.

§. 8.

*S*PLIVS blames the Pancreatick juice, grown sharp, by the passages being a while obstructed, and a vitious Effervescence arising thence afterwards, because furthermore an Acid, together with a predominant lixivious Salt, being carried by the lacteal Veins, and the thoracick Duct, to the Subclavion Veins, and at length to the Heart, causes heat and a frequent Pulse,

§. 9. We

§. 9.

W^h^e are of Opinion, That in a Tertian Ague Ferments may lye any where, which being communicated to the Blood, are apt to ferment; for these Particles stagnating in the Tubes, are insensibly more and more altered, and then, when one of them acts upon another by their mutual Impulse, there must needs be a struggle; which being raised, the Matter is carried into the Mass of Blood; and because these Particles are thin and sulphureous, and therefore more inflammable in a Tertian, the Fits usually come at set times. But oftentimes Bile, which is nothing else, but a sharp and sulphureous Excrement of the Chyle and the Chylifick Parts, grown sharp in a certain degree of Corruption, but caused chiefly by External Errors. If this be not voided, but gather, and stagnate preternaturally, first of all it ferments (that is, acts upon the Chyle) afterwards it is dispatcht into the Lacteal Ducts, then into the Blood, and breeds a Tertian. We find the cause of this Ague therefore in an Obstruction of the Tubes, and do think, that the Particles are more sulphureous and thinner in this, than in other Agues. There may also be a great Cacochymy, yet without any disturbance in the Mixture of the Blood. At the beginning of the Fit the Pulse is rare and slow; because the Chylous Matter, that every four and twenty Hours is brought into the Blood, is unfit for Fermentation; and so the Ferment of the Blood abates, and

cold and shivering usually follow. When the mixture of the Blood is disturbed, no wonder, if Fermentation goes on ill, and Spirits are bred in less quantity and thicker, whereupon at length the Body grows unfit for Motion: For there is weariness always in a manner either from dissipation of the Animal Spirits, or from Obstruction of the Muscles.

We cannot always rely on the Duration of the Fit, as on a Sign of an exquisite or spurious Ague. In a Spurious all the Symptoms are milder, and sometimes therefore of longer continuance than in an exquisite Tertian.

Finally, all things may be a Procatartick Cause, which are able to augment and bring into act bad Humors, and therefore disturb the Blood; such as inconvenient Air, especially a Vernal, turned from the North, which being drawn by inspiration, does not only provoke the Ferments lying in the Tubes, to Fermentation, but by its ambient Frigidity hinders free Transpiration. But especially bad Food taken in too great a quantity and disorderly, excessive Watching, unseasonable Exercise of Body or Mind, sudden Passions of the Mind, some Excretions suppressed, Ulcers and Inflammations, may corrupt the Chyle and cause this Ague; according to the diversity of all which causes, especially the disposition of the Blood, more or less pituitous, melancholick, or serous, this Ague is sometimes legitimate, and sometimes spurious, and proves either longer or shorter.

§. 10. Ordinarily

§. 10. Prognostick.

Ordinarily there is but little danger in this Ague; yea, a Legitimate Tertian is reckoned as good as Physick, and so is a Spurious one; because by it the Blood is purged, no less than generous Wines by fermenting sometimes grow more generous. Therefore several call this Ague *Sanguinipurgium*, or Blood-purger. It may often likewise degenerate into other Diseases, to wit, a Continual Fever, or Quartan Ague, especially towards the latter end of Autumn, and into such diseases. Sometimes they kill Old Men; yea, several Instances of a mortal Tertian occur in Authors. A Jaundice coming upon a Tertian, puts an end to it. Ordinarily this Ague ceases with seven or ten Fits: If it proceed further, it is the more difficult to Cure. The sooner Concoction appears, the sooner it is over. A white Cloud in the Urine, as a sign of Coction, argues the Ague will quickly be at end; but when there is no Sediment, it is a sign it will be longer. The more violent the Symptoms are, the sooner it is at an end, if it intermit perfectly. Though the Lips be sore, it may sometimes last a long time. If a bastard Tertian continue long, it may easily bring upon the Patient a Dropfy, swelled Spleen, &c.

§. 11. Dietetick Cure.

WE now come to consider the Dietetick cure of a Tertian. Therefore let the Air be temperate, serene and pure.

Meat of good Juice and easy Concoction must be moderately taken out of the Fit; but in it must be altogether forborn. Avoid sweet things, but especially over high Seasoned and Smoak-dried Meats, Phlegmatick and watry things taken while the Body is hot. And all manner of Food taken to excess or disorderly, all Meats that are gross and hard of Digestion, must be forborn.

Drink must be rather temperate than hot. Altering Tinctures, Spirit of Nitre dulcified, of Salt, of Mars dulcified; or strengthening Tincture of Cordial Flowers, Roses or Violets, &c. may be dropt into Beer. Wine must either wholly be forborn, or a little may be drunk with Juice of Currans or Raspberries, or with Spaw-waters.

Sleep must be procured by Opium, for a secondary intention, mixt with Antifebriles, or Emulsions of Almonds and Poppies: For Watching is exceeding hurtful.

Rest is better than Motion; for Digestion of the Juices is best performed, while the Body is quiet.

The *Belly* must be kept loose: If it is Costive, it must be kept open with Lenitives, Clysters, or Suppositories.

Let the *Mind* be kept quiet. Anger, Grief, Care, Frights, &c. must wholly be avoided.

§.12. Pharmaceutick Cure.

HAVING considered the Dietetick Cure, we hasten to the Legitimate Method of healing, upon which the whole stress of the business lies. First, therefore let us see the Method of the *Galentists*, which consists in removing the cause, which they reckon to be Excrementitious Bile. Hence they commend Evacuators, Preparatives and Alteratives; and because they believe the source of the Matter is in the Mesaraick Veins, therefore they hold, That the vicious Humor should be evacuated. and, if need were, be prepared, before it infect the good Blood. They therefore evacuate the first Ways, either by Clysters, or by giving Lenitives of Syrup of Roses Solutive, Manna, Cassia, to which they add Rhubarb, Agarick, or leaves of Senna, according to the Nature of the peccant Humor. And if the Patient be troubled with the Heartburn and Nauseousness, they advise Vomits.

Asto letting of Blood, though Bile in the Mesaraick Veins require it not; yet if there be a *Plethora*, they advise bleeding, and not presently at the Beginning, but they open a Vein in the State, and at the time of Intermission.

After these things they give such Medicines as correct the excessive Qualities of the bilious Humor. Such are Coolers and Moistners, which have a virtue of cleansing the first Ways, and checking of Putrefaction; such as in their Opinion, are, Dandelion, Endive, Cichory, Sorel, the four greater cold Seeds, Juice of Citron, Raspberry, &c.

and Emulsions, Syrups or Electuaries made of them. To which in bastard Tertians they order the adding of things that respect Phlegm and Melancholy, roots of Fenil, Grass, *Asparagus*, Polypody, *Carduus Benedictus*, lesser Centaury, Spleen-wort, Wormwood. *Riverius* highly commends Cream of Tartar. Their Specificks are, Dandelion, Chamomil, lesser Centaury, Plantain, Devils-bit, &c.

After Purges and Vomits they commend divers Diureticks, that is, Emulsions of the four cold Seeds made with Barley or Strawberry-water, or Decoctions of Grass, *Asparagus*, Fenil, Maiden-hair, red Vetches, Chamomil Flowers, Wormwood, Whey, &c. Thus if Nature endeavour to expel the Matter by Sweat, they say it must be promoted by giving of Sudorificks either before or in the end of the Fit; and in pure Tertians, wherein Nature uses to move Sweat in the end of a Fit, let the Patient drink Barley-water, or water of *Carduus Benedictus*, Sorel, &c. In bastard Tertians they give hotter things, which taken a few Hours before the Fit, oftentimes remove it.

If the Ague will not yield to these said Remedies, and there be Signs that some of the *Viscera*, Liver, or Spleen too is affected, then, they say, care must be taken of it; and indeed, because the Liver, according to them, in bastard Tertians, is obstructed with thick Bile or gross Humors, which infect the Blood, they advise the using of such things as correct Bile. For which end they praise Wormwood above all other things, because, they say,

say, it has a Virtue to deterge Bile, and to carry it off by Stool and Urine, next to which in virtue is lesser Centaury; wherefore they magnify Trochiscs of Wormwood, Rhubarb, Gentian, &c.

Among external Topicks they extol above all things a Plaster made of Cobwebs, *Unguentum Populeum*, leaves of Shepherds Purse, Nettles, Crowsfoot, and other Vesicatories.

§. 13.

THE Paracelsus and Helmontians do here boast of their Secrets; of which we have already spoken.

§. 14.

VVith his Intentions of curing this Ague, are these following. 1. The Restitution of the Blood to its natural temper. 2. The prevention of the depravation of the Nutritious Juice. 3. The checking of the Febrile Fermentation, that a Fit may not come. As to the first, he Vomits, Bleeds, and Purges in the Beginning. For Vomits do good, as they cleanse the Stomach, that the first Concoction may the better be performed, and especially, as they empty the Gall-bladder by straining the Bile abundantly out of the *Meatus Choledochus*, that thereby it may be more plentifully drawn out of the Mass of Blood, and that so the Blood may be cleansed from the Excrements of adust Salt and Sulphur; but he thinks these things should be omitted in weak Constitutions. He says, That bleeding relieves, inasmuch as it

cools and ventilates the Blood, so that it is not so much roasted. Purges do good, as they fetch the Bile out of the Bile-Vessels, and consequently out of the Mass of Blood. Above all things he commends Potions or Infusions of Rhubarb and Senna, by which remedy alone, keeping a low Diet, with outward applications to the Wrists and Breast, I have seen Tertian Agues cured. For reduction of the Blood he commends Digestives, and sower things, inasmuch as they check Fermentation and heat of the Blood. He has seen this Ague cured by change of Air. He says that abstinence and a low Diet has often cured a Tertian.

But if a Tertian Ague have rooted it self through some Error committed either in Diet or Physick, towards the latter end he praises Decoctions made of Herbs and Roots, that are gently Diuretick; as also Electuaries made of Conserves temper'd with Salt Nitre, or the fixt Salt of Herbs, mixt with testaceous Powders and Spirit of Vitriol.

When the *Crisis* of the Blood is a little amended, so that the Urine is clearer, and not so tinged, with an abatement of Thirst and Heat, then he admits of things to stop the Fit; for which end he gives the Jesuits Powder, or Powder of the Bark of Ash, Tamarisk or Gentian, with Salts mixt with them, in White-wine. Nor does he omit Plasters to the Wrists and the Soles of the Feet. In the end of the Ague, he says, a gentle Purge must be given, and a more plentiful Diet may be allowed.

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§. 15.

SINCE in the cure of Agues has not so much regard to the distance of Fits in Agues, as to the diversity of the concomitant Symptoms, namely of Cold and Heat. In Tertians therefore which happen in the Summer-time in a young and virile Body, he thinks, that the Cure should otherwise be insisted on, than in Tertians, which come in Winter, and afflict Old Men and Children. For in the former sort Bile abounds, and in the latter Phlegm. And according to the presence of this or the other Humor, he says, the cure must be varied. If therefore in a Tertian there be great heat, and the Patient be Squeamish, with a bitterness in his Mouth, he says, it is a Sign, that Bile is turgent in him, and affects a way upwards; for which end, on the intermitting day, or if the Fit come after Dinner, on the day the Fit comes, four or six Hours before it comes, he is for giving a Vomit of Glass of Antimony or *Crocus Metallorum* in a moderate Dose, infused over Night in some convenient Water, suppose Cichory or Fenil, adding a little of some Cholagogue Electuary or Syrup, to the end the Humor that tends most upwards, may be carried off by Vomit, and that which inclines downwards may pass by Stool. Afterwards he inculcates, that we should have good regard to the Humors, and so he questions not, but this Ague may easily be Conquered.

§. 16.

IN this Ague we do our whole endeavour, that the Febrile Ferment, generally lurking in the first Ways, and already communicated to the Mass of Blood, may be washed out and corrected, and afterwards the excessive Fermentation of the Blood may be checked, that the most urgent Symptoms may be obviated, and the decayed strength, and ruined *Viscera*, may, as far as possible, be restored. The special Method of curing a Tertian, and all Agues, proceeds two ways, and with two Medicines. 1. Out of the Fit. 2. Before the Fit. The Febrile Ferment may very well be removed out of the first Ways by Vomits and Purges, which must presently be given at the Beginning of the disease, especially if there be Nauseousness and a Disposition to Vomit. But when there is a great Agitation in the Body, then we think we should rather abstain from them. For then if you should give Aloëticks, Diagridates, Antimonial, and other strong Medicines, you will add Fuel to the Fire. Therefore we should be content with gentle things; to wit, Cassia, Manna, or only an infusion of Senna with Rhubarb, and Syrup of Buckthorn: And because these are bitter, you will do more good with them than with others, tho stronger, which must be given, as other things, on the intermitting day. In Nice People and Children, Clysters are good in the Beginning and End of the Fit; and I have experienced this with good success in my Practice. For without all doubt a certain

certain Matter was separated from the Blood, and discharged into the Guts, which vitious Matter, if it be discharged by Clysters, the next Fit will abate much of its violence.

As to Purgatives, here, as we said in the preceeding Chapter, Physick Infusions and wines are proper of tops of Worm-wood, lesser Centaury, Flowers of Cichory, root of Gentian, Plantain, Dandelion, Rhubarb, leaves of Senna, adding some Spike, which may be infused in a sufficient quantity of Rhenish-wine; for instance;

Take of root of Fenil, Gentian, Butchers-broom, Cichory each three Drachms, leaves of lesser Centaury, Goose-grass, Wall-rue, Worm-wood each half an handfull, Bark of Contrayerva one Drachm, leaves of Senna one Ounce and an half, Rhubarb three Drachms, Seed of Caraway, Anise, Fenil each two Drachms, Crude Tartar half an Ounce, quilled Cinnamon two Drachms. Cut them, and put them in a Bag for a measure of Wine. Or,

Take of leaves of Cichory, Dandelion, Wormwood each one handfull, root of Cichory, Gentian, Plantain, Monks Rhubarb each one Ounce, true choice Rhubarb half an Ounce, Spike one Scruple. Make an extract with Spirit of Wine.

Also Pills, Electuaries, Potions, Powders and Apozemes may be prescribed according to the diversity of this or the other peccant Humor. But I have no mind here to give Receipts of them all, since

every young Physician may easily make them out of the aforesaid. *Elixir febrile Mynsichti*, *Elixir proprietatis*, and all bitter things are good. Hence the Dutch use the Electuary of *Hiera Picra* much, by which alone they cure Agues.

A great Controversy among Practitioners offers it self about letting of Blood, whether it be necessary in a Tertian Ague? It is answered in the Negative, especially since it is evident, That thousands have been cured without bleeding, and much in these Countries; and since daily experience shews, That such as accustom themselves much to letting of Blood, are subject to Fevers; and further it shews, That Agues are prolonged by it, that it neither abates a Tertian nor a Quartan, but rather encreases them, it is our advice to forbear letting of Blood. But if strength be good, and there be a *Plethora*, sometimes it may be allowed. But what benefit can bleeding bring to the first Ways?

And this by the way must be observed, that in Tertians it is ever better, that the Fit should Postpone than Anticipate: The reason is obvious, because when the Fits come later, it is a Sign, that either the Febrile Ferment is diminished, or at least moves more slowly out of its *Focus*; both which are good signs in diseases, especially in Agues.

Out of the Fit, or on the intermitting days, Medicines must be given, that resist Sharpness and Viscidity, and open Obstructions, to wit, *Anima Rhabarbari*, Antimonial Medicines, *Clyffus Antimonii*,
K k k 3

monii, Whey of Goat's Milk, *Tinctura Martis absynthiaca*, *Arcanum tartari*, *Tinctura Martis arcano tartari parata*, *Elixir vitrioli Mynsichti*, *Mixtura simplex*, *Mixtura aperitiva* or *antiscorbutica*, *Spiritus aperitivus Penoti*.

And the Febrile Effervescence may be checkt with Precipitators; by which alone, without Purging either upwards or downwards, or Bleeding, we have cured several Agues, and towards the latter end we gave a Purge. Among Precipitants we reckon all Earthy things, such as their *Terra Sigillata*, also Coral, burnt Harts-horn, Chalk, Irish Slate, blew Crabs-eyes taken out of live Crabs, Shells and the *Antifebrilia Sennerti*, *Strobelbergeri*, *Mynsichti*, *Crollii*, Pearl, precious Stones, especially *Lapis Lazuli*, a Drachm of which given with some proper Vehicle is a secret in all Agues. But who can recount all Precipitants? Jesuits-Powder, root of Gentian, Silverweed, Plantain, Bark of *Guajacum*. Here is a Receipt;

Take of the remainder of Spirit of Sal Ammoniack half a Scruple, vitriol of *Mars* thirteen Grains, Jesuits Bark powdered one Drachm, *Specificum Crollii* two Scruples. Mix them. Make a Powder to be divided into two equal parts.

Here also, as in all Agues, Cinnabar of Antimony will be proper, things that Vomit and Purge being premised. For it has a virtue of precipitating febrile Ferments and of restraining the violent Motion the Spirits. It must be mixt with the aforesaid opening Pre-

cipitants, and Opiates; for instance;

Take of Cinnabar of Antimony, *Antimonium Diaphoreticum*, Crabs-eyes each one Scruple, *Tartarum Vitriolatum* half a Scruple, Powder of Shells one Scruple, *Theriaca caelestis* six Grains. Mix them. Make a Powder, and divide it into two equal parts. Or,

Take of the *Arcanum* of Spirit of Sal Ammonick and Vitriol each two Drachms, *Essentia anodina* one Drachm, Oyl of Pepper, Camphore each one drop. Mix them. The Dose from fifteen to twenty drops or more in a proper Vehicle.

It is a good way in Agues to mix opening, Diuretick Salts with Precipitants, and to give two or three Doses, an hour successively one after another, before the Fit. For these Salts joyned with Precipitants, will carry off what is precipitated of the Ferments in the Vessels. *Arcanum duplicatum* with native Cinnabar or *Mercurius dulcis* is an excellent Medicine for curing Agues. If a Man knew how to make a Salt of the Combination of Spirit of Sal Ammoniack and Spirit of Salt, mixt with Cinnabar of Antimony, he has a secret where-with he may cure all Agues, especially a Tertian. Antimonial Medicines are all proper in this case, and Terrene Powders which have an occult Salt: Also Aluminous Medicines are good, but they must not be mixt with other Salts: and Martial ones especially. For amending the Constitution of the Blood, and the Tone of the

the Bowels, in the mean time any attemperant and digestive Medicines are good; that is, such things as hinder any great disturbance in the Blood, and by separating, and as it were precipitating its Feculencies send them towards the Emunctories. To which end, Whey boyled with a little Cinnamon or Aniseed, or the following Antifebrile Potion, will conduce.

Take of Water of *Carduus Benedictus* two Ounces, Salt of Wormwood one Scruple, *Arcanum duplicatum* five Grains, Syrup of *Carduus Benedictus* three Drachms. Mix them. Make a Potion.

All sower, saline, terrene Powders are here proper, that is, of Tartar, Nitre, fixt Salts of Herbs, Wormwood, *Carduus Benedictus*, *nitrum preparatum*, *antimoniatum*, *chalybeatum*, the excellent Antifebrile of *Wedelius*, which is made of *Nitrum vitriolatum*, *Antimonium Diaphoreticum*, Shells, Mother of Pearl, Crabs-eyes, burnt Harts-horn, Salt of Wormwood, lesser Centaury, adding a little *Opium*, and a drop of Oyl of Cloves, Pepper or Camphore. I have oftentimes given first a Vomit of two Grains of Emetick Tartar with Salt of Wormwood, and then the following Powder, whereby I have cured several Tertiaries.

Take of Shells, Irish Slate each one Scruple, Native Cinnabar Ten Grains, *pulvis anodinus* five Grains. Mix them. Make a Powder, for once taking before the Fit.

Gentian root with a little *Nux Vomica* will be better here than *Jesuits Powder*. *Vitrum Moscoviticum* given three or four times, a Drachm at once, is good in all Agues. *Sal Polychrestum* is of excellent use. It is made of Salt of Wormwood, lesser Centaury, Sal Ammoniack and Tartar, with a little Vinegar poured upon them. Here is a Receipt.

Take of *Antimonium Diaphoreticum* one Scruple, *specificum febrile Crollii* one Scruple, *Arcanum duplicatum* twelve Grains, *Sal Polychrestum* half a Drachm. Mix them. Make a Powder. Divide it into three equal parts.

Or give this following two hours before the Fit;

Take of Harts-horn Philosophically calcined one Scruple, Salt of Wormwood, *Carduus Benedictus*, Fumitory, each seven Grains. Mix them. Make a Powder; after it is taken, let the Patient compose himself to Sleep.

For such Medicines expel the Seeds of the Ague, and restore the natural Ferments of the Bowels, which are almost destroyed. Opiares are of no contemptible use in Agues, especially *essentia anodina Zwelferi*, *theriaca celestis*, &c. which may be joyned with other Antifebriles. And so divers Martial, Saturnine, Aluminous Medicines, &c. often conquer this Disease; for instance,

Take of crude Alum, Nutmeg each one Drachm, *Olibanum*, Pepper each five Grains, Oyl of Cloves one drop. Mix them. Give one Drachm in Centaury or some such like Water.

If continual Sweating accompany an Ague, this following is good.

Take of Salt of Wormwood, lesser Centaury, *Cardius Benedictus*, Tamarisk, mix them with a little Spirit of Salt, just as much as they will imbibe. Add two Drachms of Cream of Tartar, and mix them. Give one Scruple or half a Drachm Morning and Evening.

Also *Nitrum Saturninum* or *Tinctura Antiphthisica* may be given in this case. Excellent Medicines for Tertians are made of Nitre. This following is commended in the *German Ephemerides Ann.* 2. Obs. 196.

Take of Nitre two Ounces, Borax two Scruples, Sal Ammoniack half a Drachm, Flower of Sulphur half a Scruple. When the Nitre is melted in the Crucible, add the rest by degrees; when they are all well joyned, pour the mixture upon a brass Table, or Dish.

In a Tertian, and in all Agues we advise violent Motion before the Fit, either on Horse-back, or by playing at the Ball, &c. If an Ague come from Worms, as Authors hold, things good for the Worms must be mixt with Antifebriles. For which end Medicines of Myrrh and

other bitter things, mixt with *Mercurius dulcis*, are good.

By the way observe, an Oedematous swelling of the Feet, and sometimes the Beginning of a Dropsy, attends a bastard Tertian. The reason is, because Patients oftentimes drink uncorrected Liquors. In which case Motion and Labour must be ordered, and things must be given to strengthen the Stomach and the Blood; among which these things excel, viz. *Nitrum Antimoniatum*, and other Nitrous and Martial Medicines, *tinctura martis*, *bezoarticum minerale*, *arcannum duplicatum*.

Among external applications we commend Garlick mixt with Salt and Saffron, and applied to the Wrists. *Platerus* commends the inner rind of Hazle Branches steeped in Vinegar, wherewith he has cured several. *Cnassellius* commends this following;

Take of Cypress, Turpentine one Ounce and an half, liquid *Styrax* half an Ounce. Melt them in a Copper Dish. Then take twenty large Spiders, bruise them, and mix all in an earthen Vessel with a wooden Pestil, till the Spiders no more appear, and the mixture look of an Ash-colour. Add to the mixture, made warm a little, of Powder of Toads, Gun powder, Powder of Serpents Heads, Sal Ammoniack each six drachms or an Ounce, common Salt, Salt of lesser Centaury each half an Ounce, Camphore two Drachms, Chimney Soot what is sufficient to tinge it. With Febrifuge Oyl what is sufficient make a Mass for an exceeding black Plaster. Of this Mass make two round Plaisters,

Plasters, about the bigness of a Crown piece, which must be covered with leaf Gold or Silver, and an hour or two before the Fit applied to the Wrists, and there left for nine days. Then at the very same hour they must be taken off, and thrown into the River.

Externally also Juice of Nettle, Silver-weed, or Plantain is good to apply to the Wrists. The Herb *Iberis* (it is *Fludd's* experiment) may be applied to the Soles of the Feet; and so may the inner Rind of Wall-nuts steeped in Vinegar. *Strobelbergerus* his Febrifuge Plaster of Air, Fire, Water and Earth, is good, *i. e.* of Cob-webs, because they are in the Air; of Soot, which is made by Fire; of Turpentine, because it is Fluid; and of caustick Crowfoot, which grows on the Earth.

The Liver of a Partridge with Yarrow-water is a good Empirical Medicine.

For recruiting of Strength and the Bowels, mixtures must be used of temperate Cordial waters, with Pearl, Crabs eyes, *Antihæcticum Poterii*, and such like Preci-

pitants added in a due Preparation, putting in a little Sugar of Pearl, for the tast's sake.

You may find the cure of the Symptoms in the last Chapter of this Book.

A double Tertian is cured with the same Medicines; yet with this difference, that the Body must be oftner purged in this than in a Simple Tertian; nor must the Sudorifics be so strong here, as in the Simple, because the coming of the Fit every day weakens a Man much. But since we are of opinion, that a Quotidian and a double Tertian differ not at all, we shall not treat of it twice, but you may see a Quotidian Ague.

In a Scorbutick Tertian where Spots appear all over the Body, and Pimples break out with pain, Antiscorbuticks must be mixt with Febrifuges: for instance;

Take of *Aqua Antiscorbutica* six Ounces, Essence of Buck-bean one Drachm and an half, *Elixir Antifebrile* one Drachm, *Syrupus Scelotyrbicus* one Ounce. Mix them. Give a Spoonful on the intermitting day, and before the Fit.

C H A P. IX.

Of a Quartan Ague.

§. I.

NOW we are come to another sort of Ague, which is called a *Quartan* from the number of the fourth day, when it afflicts a Man. This disease is so Pertinacious and Refractory, that it is become a Proverb;

Hydrops, Quartana, Medicorum scandala plana.

And *Richardus* the Physician calls God, and all that is sacred, to witness, That he could never attain a competent Knowledge neither of Epidemical diseases, nor of Womens Conception, nor of a *Quartan Ague*. It has two days of Intermision. The Ancients called it *Melancholica*, from the efficient Cause. *Pliny* calls it *Quadrjma*, from its fourth day Circuit. *Plautus* calls it *Querquera*. It is described to be a preternatural Effervescence of the whole Mass of Blood, afflicting the Patient every fourth day, with Shaking, Thirst and violent Heat, arising from a Febrile Ferment, lodged generally in the Vessels of the Spleen, which disturbs the Mixtion of the Blood.

This Ague is Simple or Com-

pound. Simple, when but one Fit comes in one day. Compound, when two Fits come every fourth day, as I observed in a Citizen of *Hanover*. I observed it also to come in one Man at *Cassel*, every fourth and seventh day. That is Compound also, which comes on the intermediate days, and it is either double or treble. That is double which intermits one day and comes two; that treble, which comes every day. One is called *Hepatick*, which has its course in the Liver; that *Splenetic*, which has it in the Spleen; and that *Stomachick*, which has it in the Stomach: But we admit not of this difference.

§. 2. *Part affected.*

AS in all Fevers and Agues, so in a *Quartan*, the Heart is reputed for the Part affected; because the Heart was reckoned by the Ancients the Fountain of Life and Heat. For according to *Galen*, *de differ. febr. l. 1.* no excess of heat can be called a Fever, unless the Heart be hot. But the Ancients reckon the *Focus* or subject of the cause, to be the Mesentery with its Vessels; and the Spleen, as it is the Fountain of Bile,

we, setting aside all Prejudice, do think the cause lies in the Stomach, *Pancreas* and Spleen, which is reckoned the chief Lodging of thick, dirty, dreggy and earthy Matter. Nor do we here exclude adjoyning Parts and Vessels, the Guts and Chyliferous Ducts, when they are obstructed: from which obstruction of so many Parts and Passages, it cannot otherwise be, but an acid must be encreased, and exercise its Tyranny every where. We have *Helmont* of our opinion, *tract. de febr. c. 6. l. 9.* who shews, that the Spleen suffers much under the Torture, if a Quartan; so that it becomes the sink of black and retorrid Matter. But he subjoyns, that its Seat is not in the Body of the Spleen, but in the Arteries, if not in all, at least in some, since this Part above all others abounds in Arteries.

Sylvius does in this, as in other Agues, acknowledge the *Pancreas* only for the *Focus*.

§. 3. Diagnostick.

LET us now see the Diagnostick Signs; some are common, others proper. The common, which are in all Agues, are, pain in the Head and Loyns, heat and cold, thirst, yawning and reaching, a preternatural frequent Pulse, &c. They are proper Signs, as they are competent only to such a sort of Ague. In regard therefore of the Motions of cold and heat a Quartanary Circuit is an infallible sign of this Ague; so also in regard of duration and time, while the Fit holds a Man, there arises another sign of this Ague; for

it lasts sometimes twenty, sometimes four and twenty hours, with a kind of sower Sweat. Those that have this Ague are very hungry, because of the Acid, and they have often a depraved Appetite, like those that long; their Body is dull and prospers little, their Strength is low, they are Morose, they chuse a sedentary life, they are great spitters, their Pulse is weak, because there is no Spirit in the Chyle nor Blood. *Galen* magnifies the Testimony of the Pulse, so that, 2. *de cris. c. 4.* he Boasts, how to know by that alone, an Ague was at Hand, and that he foretold it would prove a Quartan: But *Campegius lib. 1. Hist. 9.* denies that this is possible to be done.

We must briefly also consider the Signs of the Subject or Febrile *Focus*. The signs of the Spleens being affected are reckoned to be, a leaden colour of the Body, the swelling of the left *Hypochondrium*, which *Sylvius* ascribes not to the Spleen, but to the Colon. The *Pancreas* also acts its part here, by its over acid Juice.

The Urine varies very much both as to colour and consistence, sometimes it is white, sometimes black, and sometimes inclining to red. In the Beginning the Urine is generally watry and crude, in the Process of the disease it is higher coloured and thicker, The Sweat is copious and stinking, smelling generally sower, which the Patients themselves usually loath. This Ague uses commonly to come in the Afternoon.

§. 4. Cause.

TH E more exactly any one knows the causes of diseases, he may the safer, sooner and more pleasantly oppose Remedies to a disease, and to its Causes. We shall endeavour to find them out, and build the whole cure upon them, as on a Foundation. The *Galentists* make the immediate cause of this Ague to be a kindling of Humors in the Heart. The more proximate, mediate causes are with them Putrid Vapors, exhaling from a Melancholick Humor; which is fourfold. 1. Of adust Blood. 2. Of Salt Phlegm. 3. Of adust Bile. 4. Of a Melancholick adust Juice, like burnt Lees. Thus *Avicenna* will in this sense have a Quartan to be either Sanguine; Bilious, Phlegmatick, or Melancholick. *Hippocrates de natura hominis* will have a Quartan, as all other Agues, to come from yellow Bile, but mixt with black, where, he says, you may know it by this; because Quartans are caused by a Melancholick Humor.

§. 5.

TH E *Chemists*, according to their Principles, hold, That a Quartan is produced of Nitro-sulphureous impurities. Some of them ascribe Quotidians to Mercury, and Quartans to the Element of Earth. *Quercetan* in a Quartan accuses Tartar, the common Enemy of our Nature.

Charleton, following *Willis*, shows, that in a Quartan, the Blood being spoyled of its sweet, spirituous and balsamick Nature, con-

tracts a certain acid, penurious and a little austere Nature, as we see Wine and Beer grow sowre, when the Lees are unsettled, and the Spirits depressed by Thunder. Just so the Blood degenerating much from its native Purity, and being so full of sowre Dregs, as to fix the Spirits, cannot rightly concoct, nor at all assimilate the fresh Chyle, that comes into it; but corrupts it into a strange Liquor, whereof, when the Vessels are full, a certain *Fluor* of this Matter ensues, and as it were a spontaneous Effervescence, causing an Ague-Fit with cold and heat.

§. 6.

ACCORDING to *Belmont* only a Quartan Ague reaches farther than the Stomach. In discoursing of it he talks of the *Archæus* of the Place, how in its own Territories it commits an Error in Digestion, which at set times shews its fury. According to him it ceases of it self, and returns perhaps again in a Month, and is cured naturally of its self. Sometimes he has seen it cured by a *Crisis*, and many Stools. He derives its Original from an acid Chyle carried into the Spleen.

§. 7.

ACCORDING to *Willis* the cause of this Ague is Blood degenerated into an acid and Austere Nature, like eager Wine, Alum, or Tartar, consisting of much Earthy and Saline Matter, by which almost a third part of the Chyle is turned into a certain Fermentative Matter, which every fourth

fourth day is exalted with the Blood, and causes a new Effervescence.

§. 8.

Sylvius thinks the cause of this Ague is Phlegm, sometimes grown glutinous and plentiful, because of the cold of the Winter and Spring; by which tenacious Phlegm, he holds, that contumacious Obstructions are made in the lateral Ducts of the *Pancreas*, and that double and treble Quartans proceed from more of the lateral Ducts being obstructed at the same time, but opened at several times.

§. 9.

THESE things thus considered, one would think none could well doubt of the true and genuine cause of a Quartan Ague: we will therefore briefly give you, what we think of the Matter. We make no question, therefore, but in this Ague the Ferments are more in quantity and more viscid; whence there are not only Obstructions of more Vessels, but they are more contumacious; and so the Mixtion of the Blood is disturbed. For the Enemy has not only possessed the Mass of Blood, but has reduced all the rest of the Humors, yea, the very Chyle, into an acid Paste, which being so depraved must needs be attended by a disorder in the Mass of Blood, Juices and Parts of the Body. And the reason, why the Fit comes so slowly, is the Viscidity of the Ferment clinging to the Vessels of the Spleen and *Pancreas*, and the Tenaciousness of the Blood, which comes slowly thither.

The condition of the *Focus* is the straitness of its Passages, wherein dull, tough and tartareous Particles are contained, especially in the chyloferous and other Ducts; for in a Quartan the saline Particles of the Chyle are exalted, which the Blood cannot conquer. For this Ague is generally produced by a vitious, acid Chyle. We learn, that there are these causes in a Quartan; because all Quartanary People have either a contumacious Obstruction in some of their Bowels, or a great loss of Tone and a Viscidity in all Parts designed for the first and second Concoction, or an acid Crudity gathered from viscid, acid, and ill figured Particles. For the slow coming of the Fits shews, that the Matter is very inept for Fermentation.

That in a Quartan something sharp is mixt with a very Viscid, and as it were immoveable Humor, appears from yawning, cold, shaking, and pain in the Bones, caused thereby; by which Symptoms first of all accompanying the Fit, it is generally distinguished from other Agues or Fevers.

The reason of the Head-ach is, because the thick matter sticks in the Capillary Veins, and cannot perform its Circulation. For the cold continues longer than in other Agues; because the Febrile Matter cannot so soon extricate it self and insinuate into the Blood, so as to ferment with it.

Restlessness is produced by sharp, cutting Particles.

There is not always a Melancholick intemperature in this Ague, unless you understand by it a thick Matter, which if it be very thick and

and contumacious, the Agues become Sextans, Octans, &c. Because a thick Humor is not apt to ripen and break out, but rather causes difficult Obstructions.

As to the remote causes, they are either natural, as Complexion and Age, so that which we call a Melancholick Complexion, is subject to a Quartan. The Age most liable to it, is from forty and upwards, according to *Hippocrates* 3. *progn.* 28. Or Non-natural; of which we shall treat in the Dietetick Cure,

§. 10. Prognostick.

IF a Quartan come in Autumn, it will be the more pertinacious; because all the Humors in the Body are then more fixt: for the Spirits fly away in Summer; and so Quartans usually hold Men in Winter, and then a Cachexy, Dropsy, Scurvy, &c. may easily follow this Ague; because in time of Autumn, the Humors grow thick, the Bowels are weakned; and there is a loss of Tone in all the Parts designed for the first and second Concoction. A Quartan is seldom dangerous, especially in hot Countries; yet it is a tedious and slow disease; so that it lasts sometimes above two years; which I remember befel many, especially such as after an Epidemick disease, or a Malignant Fever, fell into it, as it happened to me at *Leyden* in *Holland*. Of it self it is not dangerous, as I said, but it may prove so occasionally, as it may end in grievous diseases, which I mentioned before; for it often ends in the Scurvy.

Hippocrates l. 1. *morb. vulgar. comm.* 3. *text.* 4. reckons up the

benefits of a Quartan. They that are sick of it are never siezed with any grievous disease; and if they be held of any grievous disease, and a Quartan supervene, it cures them. We may instance in a Convulsion, from which Patients are freed by the coming of a Quartan, according to *Hippocrates* 5. *Aph.* 70.

Children are more easily cured of it, than middle Aged, and very Old Men.

Summer Quartans are usually short; Autumnal long, especially such as come near Winter; for the more violent the Obstruction of Vessels is, the longer the Ague will prove.

Gabelchoverus cent. 6. *Obs.* 74. gives instances of Quartans, that lasted seven, twelve, one and twenty, thirty, yea, forty eight years. It often goes off by Vomiting, when abundance of crude Humors are brought up out of the first Ways. Sometimes it ends in a *Crisis* by Sweat, thick Urine, the *Menses*, Hæmorrhoids, bleeding at the Nose, Abscess, or Itch.

If a Quartan sieze those, that have sound Inwards, and are strong, the case is safe. It usually goes off about the Solstice or Equinox.

When simple Quartans turn double or treble, they are dangerous.

Crato says well in *Epistolis Scholtzii consil.* 257. that a Quartan scarce ever goes off, but it leaves some ill Effects behind it. That which may be most feared by Quartanary Persons is Hypochondriack Melancholy, the Scurvy, or Dropsy.

I have often observed this Ague turn to the Colick: for this vitious and corrosive Acid, having parted from

from the Mass of Blood, and got about the Membranaceous sensible parts of the Mesentery, predominates there; and these corroding, cutting, and pricking Particles in process of time rend and tear the Fibres, which being very sensible are contracted with a great disturbance of the Animal Spirits: and the Convulsions are sometimes continued from the Guts and *Abdomen* to other parts.

A Case.

THE following case happened in a Gentleman's Wife, whom by GOD'S blessing I cured. This Gentlewoman was about six and thirty years old, of a Cholerick and Melancholick Complexion, of a tender, lean and thin Body. She had been taken about five Months before with a Quartan; but had put by the Fit with various Precipitants and Absorbents. Yet there remained violent pains in her Belly, Watchings, Belching and Wind, which distended the *Abdomen*, Oppression at the Heart, and at last Swoonings; and when she was even at death's Door, she was successfully cured with the Remedies, that shall hereafter be mentioned.

§. II. *Dietetick Cure.*

NOW we will look after the *Diet*. Because all hope of cure depends upon ordering it aright: for the choicest Medicines will do little good, unless the Patient's obedience concur with the Physicians diligence. The *Aer* therefore must be moderately hot, pure, clear, and it must be often changed. Avoid a cloudy, marshy and Sea Air; for Quartans are frequent on the Sea Coasts. The Au-

tumn is very fruitful of Quartans; if a hot Summer preceeded, and the Autumn be rainy: for such a Constitution of Air produces Epidemical Quartans; as it happened at *Hanover*, 1682.

§. 12.

THE Meat must be of good Juice: at the Beginning of the disease it must be small. It may very well be tempered with Borrage, Bugloss, Cichory, Parsly, Capers, Cinnamon and Saffron: Yet in process of time a fuller Diet will be proper, lest strength might fail; because it is a disease of long continuance; as *Hippocrates* seems to intimate, 1. *Aph.* 6. And the time of Eating is better after the Fit than before, as he shews 1. 1. *Aph.* 11. But mouldy Bread, Sea Bisket, and the Flesh of great Creatures must be forborn, especially if they be Old, such as Beef, Brawn, Dear, Pork, Hare. But *Quercetan dietet. polyhistor* 1. 3. cap. 43. undertakes to apologize for Hares; and so seems *Martial* 1. 13.

Inter quadrupedes gloria prima lepus.

So among Fowls these are held to breed Quartans, viz. Geese, Ducks, wild Pigeons, &c. All the Guts and Extremities of Creatures are reckoned of the same Nature. Among Fish all such are hurtful as live in Muddy and Fenny places, such as Eels, &c. All Smoak-dried and powdered Meats are as bad as Poyson, such as Gamons of Bacon, dried Geese, Stock-fish, Herrings kept long in Pickle. Therefore all salt, sowre, viscid, glutinous

nous and windy Meats must be forborn. Unripe Fruit is bad, such as Pears, Apples, Chesnuts and Wall-nuts; because they breed gross Blood, and corrupt the Chyle. All Pulse is bad, so is Rice, Beans, Pease, Lentils, Melons, Pumpions, &c. All things that are seasoned with Vinegar must be forborn: for *Hippocrates 3. de ration. vict. acut. c. 38.* knew long since, that Vinegar was not good for Quartans. On the contrary some allow of Vinegar in Agues, because it cools, and opens Obstructions. But we judge, that Vinegar ought to be forborn, unless we will foment the cause of the disease. The Drink must be the best Wine, and medicated also. Whey, Barley-water, and martial Spaws are proper. But a Decoction of Agrimony especially is a great secret in this Ague.

As for *Motion* and *Rest*, we advise the Patient to stir often, to ride on Horse-back and in a Coach.

Sleep and *Watching* must be moderate.

The *Excreta* and *Retenta* must be agreeable to Nature, The Belly must be loose, either by Art or Nature. The Hemorrhoids must keep their accustomed course: for they cure Melancholy, according to 6. *Aph. 11.* If they stop, they cause it. If the *Menses* come not at the usual time, they must be procured, otherwise tartareous Humors are gathered, and the Acid encreases.

The *Passions of the Mind* are able to produce a Quartan: for fear, grief, fright, watching and cares, as they waist the Animal Spirits, and so occasion this disease, must be avoided.

Some say, that Quartanaries may be cured with a sudden Fright, as by unexpected throwing of cold Water, at the sudden sight of Serpents, or Mice, or by threatening to throw them down a high Precipice.

§. 13. Pharmaceutick Cure.

NOW we have done with the Dietetick Cure, we will proceed to the Pharmaceutick Magazine, out of which we may take divers Weapons to destroy this Enemy. And we will go first to the *Galenical*. If therefore this Ague proceeds from a more Melancholick Humor, then they commend Moistners and Attenuants; but if it be any way adust, they advise Coolers, which Humors afterwards they will have to be evacuated by proper Medicines. They clear the first Ways by Lenitives and Vomits: Afterwards, if Blood abound, they open a Vein, and if it be thick and black, they let the more. When the Blood is evacuated, they say, the peccant matter must be prepared and concocted, and the disposition to breed bad Humors must be corrected.

If there is a mixture of Phlegm and crude Bile, they give Attenuants and Incisers at first; Borrage, Violets, Maiden-hair, Bugloss, Endive, Fumitory, Cichory, Spleenwort less and larger, Germander, Ground-pine, Agrimony, *Cardus Benedictus*, root of Marsh-mallow, Liquorice, Polypody, all the opening roots, Bark of Tamarisk, root of Walnut-tree, Flowers and Seeds of Broom, *Agnus Castus*, Ash, &c. and they make divers Medicines of these things, as
the

the nature of the peccant Humor requires.

They make their Purges, which they give after they have prepared the Matter, of Polypody, Mother of Thyme, leaves of Senna, Root of black Hellebore and *Lapis Lazuli*. And they have divers Compositions of them, such as *Syrupus de pomis Regis Sapor*, *electuarium diacatholicon*, *confectio Hamech*, *pulvis Diasennæ*, *Pilule tartareæ*, *Melanagoga*, *de Lapide Lazuli*, &c. *Galen*, the day before the Fit, gives a Vomit after Supper; the next Morning he gives the juice or infusion of Wormwood; and two hours before the Fit, some Treacle. Their gentler Vomits are Juice of Radish, with *Oxymel*, or a Decoction of Hyssop and Dill-seed. Their stronger are, *Asarum*, Hedge-hyssop, Elder, white Hellebore Root, &c.

Then, to discuss the Reliques of the Febrile matter, after Purges or Vomits, that is, when the Matter is concocted; they order Sweating Medicines to be given an hour or two before the Fit. *Galen* for this purpose had two Medicines; one of *Succus Cyrenaicus*, and another of Treacle. To this purpose he also commends Root of Gentian, *Cardus benedictus*, &c.

At length, when they have done with these, they go to Specificks, of whose acting they know not how to render any reason; such as Juice of Wormwood, Vervain, root of Masterwort, Plantain. Some crack of one Secret, others of another; but none can do what they promise. They also apply things to the Wrists; which we have mentioned before.

§. 13.

THE Paracelsists and Helmontians brag of their Secrets. For *Helmont* after he has laught at all the School-Remedies, propounds an universal Febrifuge, *l. de Febris*, c. 14. t. 7. and calls it *Præcipitatum Diaphoreticum Paracelsi*, or *Mercurius Diaphoreticus*. Externally *Helmont* commends a Plaster made of a few Dissolvents and Abstersives, but does not give its Description. But these are commonly thought to be its Ingredients, as you may see in *Grembs*.

Take of Wax one Ounce, *Styrax Calamita* two drachms, *Ladanum Liquidum* half an Ounce, *Asa dulcis*, the best *Olibanum* each three drachms. Mix them, make a Plaster.

It must be applied to the Spleen, whose *Archeus*, he thinks, is angered by the Acid of the Stomach, that he may be pacified by these sweet scented things; for which purpose he commends divers Unguents, with which alone he maintains, a Quartan Ague may be cured. He boasts how one draught of *Arcanum Corallinum* will cure it.

§. 14.

VALLIUS advises Salivation and Vomits in a Quartan, and he gives an Example of a Lady, who was so cured by him. He adds, that this Ague may easily be cured after the Winter Solstice, and, that sometimes it goes away

of it self: because at that time the Dyscrasie of the Blood, contracted by the Summers heat, is almost gone off through the Winters Cold, and that old Mass of Blood begins like a Snake, to recover towards Spring. For, he says, the whole Cure consists in changing the Dyscrasie of the Blood. He says, all remedies are good, which stop the Fit. And he thinks the Fit may be stopt by giving Vomits before the Fit; because Vomits often stop the Febrile Motion of the Blood, by raising a Motion contrary to it. But, he says, those things are surest, which purge not at all, but for a time communicate a certain Fixation to the Blood, or cause a precipitation of the Febrile Matter. He therefore uses the following Method, having first given a Vomit or Purge three hours before the Fit; he applies Plaisters to the Wrists, and gives some Ague-Powder in generous Wine, and he orders the Patient to sweat gently in his Bed. He would have this repeated several times. Above all other things he magnifies the use of the Jesuits Powder, and gives about two Drachms in Wine either small or strong infused two hours. By hot Constitutions it may be taken in distilled Water or Whey.

He also examines the Qualities of the Bark; and because it is bitter, he makes no question but the same Virtue may be found in root of Gentian, Snake-weed, *contrajerva*, &c. For all things that are actually bitter, as he says, have an excellent Virtue in crushing the Strength of Preternatural Ferments. He exhorts others also to enquire out other Simple Medicines.

and they shall find that in them, which oftentimes Art cannot imitate, towards the conquering several stubborn Diseases.

§. 15.

Sylvius, who reckons the Cause of this Ague to be over glutinous Phlegm, which breeds contumacious Obstructions in this as in other Agues, commends Medicines that cut glutinous Phlegm effectually, and the diligent taking of things that lessen it, till Obstructions are opened.

§. 16.

IT remains, that we consider **Cartes** and his Followers, who may very well joyn Forces with us. This therefore is **Dur** Method in curing a Quartan: First, all our intentions of Cure must be so directed, that the preternatural Acid in the Chyle, and other Ferments communicated to the Blood at turns, may be corrected, the Febrile effervescence checked, then that the crude Humors coagulated and made viscid, may be cut and made fluid, and being so prepared may be carried off by convenient ways, and that pristine strength may be restored to the Blood and Parts. Which things when they are duely done, there is Hope a Quartan may be cured effectually.

1. Therefore the Body must be kept loose, if not of it self, by a Clyster, or gentle Catharticks, either Pills, or the Powder following.

Take

Take of *Pihula Tartarea Quercetani*, *Melanagoga*, *sine quibus* each one Scruple, Oil of Cloves one grain. Mix them. Make Pills of a Grain in Weight. Take fifteen or more at a time.

Or,

Take of Powder of *Rheubarb* half a Scruple, *Pulvis Cornachini* five Grains, Oil of Amber one Drop. Mix them. Make a Powder for once taking.

Or let the Physick-Wine, or Decoction be inciding and loosning: for instance;

Take of Root of *Elecampane*, *Galangal*, *Zedoary*, *Gentian*, *Acorus* each two Drachms, Tops of *Wormwood*, lesser *Centaury* each half a Handful, Leaves of *Mint*, *Marjoram*, *Rosemary* each one Pugil, Leaves of *Senna* three Drachms, Root of *Rheubarb* two drachms, Rind of *Orange*, *Tamarisk* each two drachms and an half, Filings of *Steel* in a Rag, or instead of it, *Vitriol of Mars* one Drachm. Cut them and steep them in Wine.

And such a Wine without the Purgers may be drunk after Meals, because bitter things especially Destroy Febrile Ferments. I would not have any one take Vomits, except he be inclined to vomiting, and the Stomach be loaded with tough Phlegm, and the Patient be strong. Otherwise it will do more hurt than good. See the German *Ephemerides An. 1685* 30. I do not allow of

Blood-letting, because it depauperates the Blood and spoys it.

2. For conquering the preternatural Acidity of Chyle, and correcting the Viscidity of the Humors, and quieting the Effervescence of the Blood, I think Jesuits Powder is the best, given in this, or some such way;

Take of Jesuits Powder finely powdered six Drachms or an Ounce, Salt of Tartar two Scruples, Leaves of *Wormwood*, *Carduus benedictus* each one Pugil, the best old Rhenish Wine ten Ounces. Infuse them over Night ten hours in a warm place. Then filtre it. Take four or five Ounces of it in the Morning, at four a clock in the Afternoon, and at Bed time, on the Intermitting days. Take a good Draught an hour or two before the Fit come, and again in the going of it off.

For the Poor you may proceed the same way with *Gentian* Root, *Guajacum* or *Contrayerva* Bark. So also the Jesuits Powder may be given with Purgers or Sweaters: for instance;

Take of Jesuits Powder one Drachm, *Scammony* six Grains, Salt of *Wormwood* half a Scruple. Mix them.

The following Tincture of Jesuits Powder is not of contemptible Use.

Take of Jesuits Powder three Drachms, Salt of Tartar one Drachm, with Spirit of Sal Ammoniack draw a Tincture.

According to *Willis* two Drachms of the Powder may be given in Wine two hours before the Fit comes. The extract of it or of Gentian may be given in Pills on the Intermitting days.

I know not what makes Physicians fear a Hectick Fever so much from the use of Jesuits Powder; since a Hectick comes from a Blood or Nutritious Juice, grown too slowre, and unfit for assimilation to the Parts, and therefore requires Medicines to correct an Acid. You need not therefore fear it. But if you be overcome with Prejudice, you may be often giving of Gentian root in lesser Centaury Water before the Fit, and now and then interpose the use of volatil Spirit of *Sal Ammoniack*, which I have found excellent in a Quartan. In a contumacious Quartan the following Powder will do good.

Take of Salt of Wormwood, *Arcanum duplicatum*, Crabs-Eyes prepared, volatil Salt of Hartshorn, Amber each six Grains, *Laudanum Opiatum* three Grains. Mix them for three doses.

Or according to *Sylvius* his way, this or the like Mixture may be given to incide the Viscidity.

Take of Water of Fenil, Fumitory each one Ounce, Tincture of Cinnamon two Drachms, Oyl of Cloves two Drops, Spirit of *Sal Ammoniack* twelve Drops, Syrup of *Carduus benedictus* six Drachms. Mix them.

One Spoonful of Spirit of Wheat, with a little Oyl Olive is commended as a present Remedy for a Quartan Ague: Because Oily things imbibe an Acid.

All Martial Absorbents are good to check the preternatural Acidity of the Chyle. Natural or Artificial Spaw Waters are good, and Spirit of Vitriol of *Mars* may be dropt into ones usual Drink. Several commend a Martial Vomit, and they say, that *Riverius* his Antiquartan was made of Antimony and *Mercury*. All Antimonials and Saturnines, both Minerals, Animals, and Vegetables are good. An excellent and sure Antiquartan may be made of a certain Martial Earth. I have had good Success from this following;

Take of Ceruss one Drachm, Bole Armenick one Scruple, Oyl of Cloves ten Drops. Mix them. Make a Powder. Divide it into four Doses. Give one before the Fit in some convenient vehicle.

Take crude Antimony and Salt of Tartar each a like Quantity. Make them run in a Crucible, let the Mass grow cold. You may safely give a Scruple of the Powder.

All things with Myrrh in them are

are good here, which *Matthiolus* knew, who commends a Drachm of Myrrh in Wine of Crete, given three times an hour before the Fit, and the Patient must then sweat in Bed. He writes how he cured himself, by this Medicine. *Comment. in lib. prim. Dioscoridis, cap. 67.* Here is a Receipt;

Take of Myrrh half a Drachm, Extract of Wormwood, Gentian, lesser Centaury, Treacle, *Carduus benedictus* each one Scruple, Oyl of Cloves four Drops. With a sufficient Quantity of Essence of Wormwood make Pills of a Grain weight. Give a Scruple or half a Drachm for a Dose.

Our Antiquartanary Tincture has been the only Relief several could find; which I shall communicate to the Curious, because of its Excellent Virtues;

Take of Extract of Jesuits Powder, Gentian, lesser Centaury *Carduus benedictus*, Treacle each one Drachm. Pour to them Spirit of Tartar well freed from its Water, and Spirit of Sal Ammoniack. Make a Tincture. The Dose is from Thirty to Forty Drops every Day; but especially before the Fit.

All Absorbents which were mentioned in the Chapter of Fevers may be here made use of. Aluminous Medicines sometimes do the whole Business: for Instance;

Take of burnt Alum one Scruple or half a Drachm, Nutmeg half a Scruple. Mix, and give it before the Fit.

Volatil Spirits are good in Quartan Agues, especially combined with an Opiate. So are fixt Mercurials.

We recommend likewise the Tincture of *Lapis Lazuli* drawn with the urinous Spirit of Sal Ammoniack.

Tincture of *Saturn* with Tartarizate Spirit of Wine, or *Arcanum Tartari solut.* is of great use in a Quartan.

Without doubt all Diureticks and Sudorificks are good here, as in all Fevers and Agues.

Out of the Fit all such things are proper, as restore Spirits to the Blood; remove Acidity from the first ways, and drive it into the Blood, and such as dilute, Whey, &c. *Crato* commends a Decoction of Turnips for a Specifick. Hither belong opening Infusions of Splenetick Medicines and *Mars*.

Tempering Absorbents, especially Martial ones, as was said, must here be made use of, such as *Pulvis cachecticus Quercetani*, *Tinctura Martis*, *Arcanum Tartari*, *Elixir Febrile Spiritu Salis Ammoniaci paratum*, *Clyssus Antimonii Salinus*, *Tinctura Antimonii Tartarizata*, *Elixir Album Helmontii*, Sal Ammoniack mixt with Salt of Tartar is excellent good: for an Antiquartan Spirit may be destilled of them.

Five grains of *Aurum fulminans* given in this Ague is a Secret.

For corroborating the *Viscera* and the Strength, and for the better Amendment of the peccant Acidity, mixtures must be made use of, made of temperate Cordial Waters, Pearl, Crabs Eyes, *antihæticum Poterii*, Coral, Mother of Pearl, and such like Preparations, that imbibe an Acid, being added in due proportion, for taste sake adding a little *Saccharum perlatum* or *rosatum*. Here is a Receipt;

Take of *Aqua confortativa* three Ounces, Water of Cinnamon half an Ounce, *Scordium* one Ounce and an half, prepared Pearl (but for the Poor, prepared Crabs-Eyes or Harts-horn) one Drachm, Sugar of Pearl, as much as will make it grateful.

For which end, divers Electuaries, Conserves, Preserves, &c. may be made. For when a Quartan is gone we must not then presently leave off Medicines; but we must insist upon Martial, bitter, and other aperient, diuretick, saline, antiscorbutick and splenetick Medicines. Spaw Waters will be good. So Whey drunk for a time with juice of Fumitory and Brook-lime is a generous Remedy.

It were tedious to mention all Medicines which might do good: We shall therefore proceed to Externals. Nettle Roots, according to *Crato*, applied to the Wrists, do good. He also commends an Epithem of Spirit of Wine, applied to the Stomach.

Amulets, according to the received Custom among the People,

some of them are more superstitious than wholesom, others are not so superstitious but more wholesom.

Trallianus hangs a live Beetle tied fast, in a yellow linen Cloth, about the Neck.

He commends also a green Lizard, the Nails of the Patient, and the Hairs of a Goats Beard.

Platerus above others commends some Amulets as certain, namely, a Spider hung about the Neck in a Hazel Nut, to wear a Jasper or Snail Stone, or to hold a Mole in ones hand till it dyes.

Rondeletius orders Leaves of Sage, Elder, Doves-foot, Rue, each half a handful, Marigold one Pugil, bruised with a little Salt and Wine, to be tied to the Wrists, before the Fit, when Signs of Coction appear.

Some affirm, that after boiling of an Egg for some hours in a Quartanary Person's Urine, then pricking it full of holes, and putting it in an Ants hill, the Ague ceases.

Crato Epist. med. Scholtz. 113. relates this following Passage. *Simon* the Baker's Son had been ill three years of a Quartan; and he told me, he had used several Remedies, but this only did him good. He took *Aqua Vite*, and wet a Tench first, and applied it to his Stomach, when the Quartan was coming. A Tench is split in the middle, and applied to the Soles of the Feet in Agues, as an excellent Remedy. And *Quercetan* applies the same to the Wrists. Several

Several cry up for a certain Experiment three Roots of Plantain, gathered before Sun-Rising and hung in a Bag about the Neck.

Sometimes People are desperate and run to Charms. But it is extream dangerous; and there want not Instances of Quartans, cured by Witchcraft, which have proved Fatal.

These and other Amulets always frustrated my Expectation. Yet according to *Willis* his Opinion, divers things may to good purpose be applied to the Wrists, and those are Astringents, which I have mentioned before, and therefore need not now repeat. But before I proceed any further, I must take notice of one thing, That when I had tried the abovesaid Amulets in my self to no purpose, one of nine sorts of Herbs with *Panis Fudaicus* and Salt did me good. But I am still doubtful to what I should ascribe the Effect, since at the same time I used other Remedies, but no Fit came, when I hung this Amulet about my Neck. It answered my end twice in others; but in others it failed. Divers topical Medicines, Plaisters, and Oyntments, may be outwardly applied to the Stomach, *Hypochondria* and Spleen, to wit Oyl of Scorpions, Tartar rectified, *Emplastrum de Cicuta*, *de Hyascyamo*, and *Magneticum*. The Back may be anointed with *Balsamus Mynsichti*. A pickled Herring split in the middle may be ap-

plied to the Back, or the Loyns may be rubbed with Garlick,

Ferrara in Observat. Chirurg. Observ. 49. wonderfully commends this following, where-with the whole Chine must be anointed, beginning at the Nape of the Neck, and proceeding to the Os Sacrum.

Take of Oyl of Bays, Fox, de *Euphorb.* Spike, Nutmeg, Turpentine each two Drachms.

These things premised we will see what empirical Specificks there are. Some magnifie a Decoction of Clubmoss; others of Broom.

Some commend the Root of Mullein. *Cardan* commends the Juice.

A Drachm of Master-wort root powdered, and given in a Draught of Wine, before the Fit, and several times repeated, does not only mitigate the Fit, but often takes it quite off.

The Heart of a Hare was formerly tried by *Diomedes Cornarius*, approved by *Monavius* and *Andreas Hildebrandus*, and is still commended by others as a Specifick in a Quartan. It is believed to do good, hung about the Neck.

The Hoof of a Seal, or its Heart, worn on the Arm, or about the Neck is thought to cure a Quartan.

Oyl of Scorpions applied to the Back an hour before the Fit, stops it.

A Drachm of *Castor* taken in the Fit, is said to cure Quartans.

If you hang the Heart of a Salamander about the Aguish Persons Neck, they say, it will cure a Quartan presently.

Some say, that Spiders Eggs,

tied in a black Cloth, and applied to the left Arm, cure a Quartan; and so do four of them drunk.

The Liver of a Dolphin roasted and eaten, they say, cures a Tertian and Quartan. But who is able to count all such things, since every one imagines he has a Secret for a Quartan Ague?

C H A P. X.

Of Symptomatick Fevers and Agues.

§. I.

VHereas divers Symptoms attend these Fevers and Agues, which we have been treating of, the famous *Sylvius* has given the Fevers and Agues their Names from the most urgent Symptom.

They are either *Chill*, *Burning*, *Epialæ*, *Fastidious* or *Asslodes*, *Thirsty*, *Hungry*, *Cardiack*, *Gripping*, *Swooning*, *Choaking*, *Asthmatick*, *Coughing*, *Arthritick*, *Mad*, *Emetick*, *Cacatory* or *Cathartick*, *Sweating* or *E-lodes*, *Pissing*, *Spitting*, or *Odon-talgick*.

That Fever or Ague is called *Chill*, wherein no Heat is observed, but only troublesome Cold, arising from a sharp, viscid Acid, vellicating the Membranes and Fibres.

That is called *Burning*, in which no Cold, but only a little Shivering precedes, and a most violent Heat follows, arising from sharp, sulphureous Particles.

In an *Epiala*, both Cold and Heat appear in a violent Degree.

The *Thirsty* is so called from

the violent, unquenchable Thirst; as the *Hungry* is from insatiable Hunger, even in the time of the Fit. The *Fastidious* from the Loss of Appetite. The *Cardiack*, from the unspeakable Pain, or Heart-burn about the mouth of the Stomach.

The *Gripping* is so called from the Colick, that attends it, arising generally from a Disturbance in the Blood, and an acid Raging about the Nervous parts of the Mesentery, and rending and tearing the Fibres.

The *Swooning* is so called from Swooning, which is caused by a great Disturbance in the Blood, and other Causes, which shall be hereafter mentioned.

The *Choaking* Fever is so called from the urgent Symptom, when a Man seems to be choaked by an austere Juice, carried to the *Oesophagus*, *Trachea*, or *Lungs*. It is called *Asthmatick*, when usually viscid Phlegm oppresses the Stomach.

A *Coughing* Fever is attended by a Cough, which is caused usually by the Acrimony of the Fever.

Arthritick Fevers have a violent Pain in all the Limbs and Joints

Joynts attending them.

A *Mad Fever* is attended by a *Delirium*, which is caused by the disturbed Mixtion of the Blood, and a Disturbance in the animal Spirits ensuing thereon.

It is called an *Emetick Fever* wherein there are enormous Vomitings produced generally by a Spasmodick Contraction of the Stomach.

A *Cacatory Fever* is attended with a Loosness, caused by a volatil and over sharp Bile.

A *Sweating Fever* is called *Elodes* or *Marshy*: because Patients perpetually swim in Sweat. Some call it *Causus Spurius*, or the *Sweating Sickness*. It was Endemick in England. Some call it *Febris Colliquativa*.

A *Pissing Fever* is attended by a *Diabetes*.

A *Spitting Fever* has a great Salivation attending it. Some call it *Salivary*. It comes from disaffected Glands.

An *Odontalgick Fever* is attended by the Tooth-ach.

§. 2. Part affected.

WE need not say much of the Part affected because the very Denomination designs the Part affected.

§. 3. Diagnostick.

SInce these Fevers may easily be known by the concomitant and urgent Symptom, it would not be worth the while to say any more of the Diagnosticks.

§. 4. Cause.

THEN we know a thing, says *Aristotle*, when we know its Cause, wherefore that we may come to the exact knowledge of Symptomack Fevers, we will search their Causes.

Cause of a Chill Fever.

THE Ancients reckoned the Cause of a Chill Fever to be tough and cold Phlegm. *Sylvius* will have it to be, the Pancreatick Juice, with abundance of viscid Phlegm, the Bile being Chill. *Helmont* says, That only the *Archæus* is the efficient Cause of Cold. But we say, That in these Fevers there are sharp and viscid Particles, which by sticking fast to the Membranes and Fibres all over the Body, and vellicating them with their Acrimony, cause Cold and Shivering, as the Soul judges; because it never observed such a Motion proceed from any thing but from Cold.

§. 5. Cause of a Burning Fever.

THE old Galenists thought Bile and inflamed Blood was the Cause of a burning Fever. The Chymists and Willis think it is, sulphureous Particles that kindle the Blood. But according to *Sylvius* the Cause is a Pancreatick Juice not sharp, little Phlegm and not viscid, but abundance of sharp, oily Bile. we reckon the Proximate Cause of

of this Disease to be the hottest Particles of the Blood, abounding with inflammable Bile, and volatil Salt, which cause such a violent Heat: Nor do we exclude here the furious Influx of animal Spirits into the Parts.

§. 6. Cause of an Epiala.

THE Galenists make the Cause of an *Epiala*, wherein Patients are violently hot, and violently cold at the same time, to be sometimes Phlegm and sometimes Bile; for from putrid Phlegm and Bile they derive Heat; and from imputrid Phlegm excessive Cold. *Sylvius* blames the Pancreatick Juice and sharp Bile, so that the Heat of the one concurs with the Cold of the other. But we think that in such a Fever (if there be any such) there are unequal Dispositions of the Blood and of the febrile Ferment, enclining sometimes to one part, sometimes to another, as when the febrile, hot Particles are carried to the Habit of the Body, Heat is produced there; but if they are otherwise figured and proportioned, they seem to produce Cold. For often there is a Fallacy in the Sense, because the Patients use to feel cold, though the Fermentation is high, the Pulse vehement and great, and the Body feels cold to the very touch: And these things happen only from the Acrimony that vellicates, sometimes these, sometimes the other Fibres and pro-

duces a Sense, sometimes of Heat, sometimes of Cold. So likewise these sharp Particles get predominance in the Stomach, and cause an *Affodes*, or Vomiting Fever. These Particles also often get into the Folds of the Stomach and by corrugating it, and spasmodically contracting the Fibres of the gall Bladder, marr its Juice, by pouring out the Bile; whereupon they are taken with a Vomiting Condition. And this Vellication proceeds from a perverse Motion of the animal Spirits, which being Disordered are apt to cause Convulsions. So *Sylvius* says, That in this Fever volatil and sharp Bile rises to the Stomach, and thereby causes Vomiting. *Willis* thinks this cruel Vomiting is caused, when Fermentative Seeds, being put in Motion, are discharged by the Arteries, that open into the Coats of the Stomach, at every appulse of Blood, and cause Vomiting; just as if one had swallowed Particles of *Stibium*.

§. 7. Cause of Thirsty Fevers.

THE old Galenists blame Bile and its Vapors, which rise to the Throat, and cause driness there, as the Cause of Thirsty Fevers. *Helmont* holds, that Thirst does not arise from Heat in the Mouth of the Stomach, but rather from an Excrement, which disaffects the Sensory. *Willis* thinks, that sulphureous Particles are carried to the Throat. *Willis* holds, that in these Thirsty Fevers, many Saline Corpuscles are carried to

to the Throat and beset its Coats, so that all Passage and Intercourse of Vapors, designed by provident Nature to moisten the Nerves of the Throat, is stopt: and hence an unquenchable Thirst must of necessity follow.

§. 8. *Cause of Hungry Fevers.*

HELMONT says, the Cause of Hungry Fevers proceeds from the Spleen. SYLVIVS blames the Pancreatick Juice, grown sower, by Reason of its Stagnation. We derive Hunger from any preternatural Acid, which kindly affects the Fibres of the Nerves in the Mouth of the Stomach.

§. 9. *Cause of a Fever with the Heart-burn.*

THE Galenists lay the Blame of a Cardiacal Fever upon the four Humors; but especially upon vitious Bile, carried to the Mouth of the Stomach. With HELMONT corrosive Salts, which fret the Stomach, are the Cause. With SYLVIVS it is the Pancreatick juice, grown sower by Stagnation, especially if sharp Bile do concurr. ~~we~~ we also do blame in this Case, sharp, saline Particles, discharged by the Mass of Blood, or Lymphatick Vessels upon the Orifice of the Stomach, which there pierce and rend the Fibres and so cause the Heart-burn.

§. 10. *Cause of the griping Fever.*

THE Galenists, after their usual way, derive the Cause of a griping Fever from the four Humors, separated upon some Occasion or other in the Guts; or from Wind that distends the Guts and the Belly. HELMONT says it proceeds from an Acid. SYLVIVS says, the Cause is the Pancreatick Juice, being too sower or austere; or Wind. APOLLIVS thinks, that neither yellow nor green Choler is the Cause, but that the Nervous Liquor is in fault, which sticks in the Mesentery and its Folds, ferments there, and causes Gripes and Torture; and Convulsions in several Membranous parts, or Pains all over. We reckon these Colical Fevers arise, when a Foreign Acid, bred by the disturbed Mixture of the Blood, forsaking the Mass of Blood, is poured into the Membranous Sensible parts of the Mesentery, and by Stagnation becomes as it were corrosive, so frets the Fibres and causes convulsions in the Guts, and sometimes continues them to other Parts.

§. 11. *Cause of a Swooning Fever.*

THE old Galenists say, the Cause of a Swooning Fever is Defect of animal Spirits, arising from a various Disposition of Humors. HELMONT thinks, it is some narcotick, dispersive Poison

son that raises a *Syncope* in the upper Orifice of the Stomach, and takes away Sense and Motion. *Avicenna* makes the Cause to lie in a vapid and dead Mass of Blood. According to him also such Fevers may arise, when the Blood ferments too much, and when it's Sulphureous Particles are too much dissolved. So the Stoppage of the Influx of Animal Spirits may produce one of these Fevers. According to *Sylvius* the Cause is the Pancreatick Juice, that has acquired an Acidity more volatil than sharp, which coagulates the Blood. The *Cartesians* derive it from the Extinction of the vital Flame for a time. It is *Our* Opinion, that besides the disturbed Mixtion of the Blood, the Blood does either stagnate in the Heart or at least is coagulated, whereupon its Motion ceases for a time. And this may be caused by divers Acids, some way or other got into the Blood. Nor do we exclude the Influx of the animal Spirits to the Heart, being either stopt or diminished. So if there be a Swooning without a grossness of Blood, it argues the *Æthereal* Matter then introduced into the Blood, is quite different from the *Æthereal* Matter which is ordinarily mixt with it. And oftentimes a gross acid Phlegm lies about the mouth of the Stomach, and causes Nauseousness, Heart-burn, and sometimes Swooning, which must be distinguished from a true Swooning: for in the former case, the Spirits are only oppressed, and all the Symptoms may be removed by one Vomit; but in a true Swooning the Patient must be recovered by Cordials.

§. 12. Cause of choaking Fevers.

THE *Ancients* derive Choaking Fevers from gross Phlegm, besetting the *Bronchia*, and sticking in the first Ways. *Sylvius* blames austere Vapors rising to the Gullet, Heart, and Lungs, and Wind. *We* think, if there be an Oppression at the Heart, it is a Sign the Stomach is beset with thick Phlegm; or that its Membranes are clogg'd with it. Nor do we exclude austere Vapors rising to the Throat.

§. 13. Cause of Asthmatick Fevers.

THE *Ancients* say, the Cause of an Asthmatick Fever is thick Phlegm, lodged in the passages of the *Aspera Arteria* and the *Bronchia* of the Lungs, which is sometimes translated thither. *Paracelsus* seems of that Opinion. But *Helmont* places it in the Stomach, and blames mucilaginous Matter gathered there. *Sylvius* will have the Cause to be a viscid Phlegm dissolved by the Pancreatick Juice, and carried to the Lungs. *We* do not question, but many viscid Excrements are bred by the disturbed Mixtion of the Blood, and its cacochemical Dispositions, which are carried to the Lungs or their *Bronchia*, or to the Stomach, and there cause an *Asthma*. So an Acid, by coagulating the Blood in the Pneumonick Vessels, and stopping

stopping its Circulation, may hinder Breathing. And so may a Disorder in the animal Spirits.

§. 14. *Cause of a Coughing Fever.*

THE Galenists say, the Cause of Coughing Fevers is, Vapors dissolved by the Febrile Heat which ascend to the Lungs, or condensed Vapors dissolve, and fall from the Head upon the Lungs, and raise a violent cough there. *Paracelsus* holds, that a cough proceeds from Tartar, or a dissolved mucilage in Fevers. So *Helmont* makes it to come from a salt Excrement separated by Fevers. According to *Willis*, a Cough is an Irritation of the Nerves or Fibres of the Lungs by any thing Heterogeneous. *Sylvius* makes the Cause to be, sharp Exhalations and Vapors carried to the Lungs, and provoking them to cough. *Carrus* blames sharp Particles coming from the Mass of Blood, which vellicate the *Aspera Arteria* and Lungs, and so cause a Cough. We think, the Cause of this Fever is foreign Salts, or sharp viscid Humors, which hang about, vellicate and rend the Tracheal Fibres; yea sometimes make them convulse, and so raise a Cough. So its seat may sometimes be about the Spleen, in the *Intestinum duodenum*, yea in the Stomach, where the viscid Matter that is separated, may lodge. A Cough may likewise arise from a *Scorbutick* Blood, which irritates the Lungs and Tracheal Fibres.

§. 15. *Cause of Arthritick Fevers.*

THE Galenists say, the Cause of Arthritick Fevers is the Deflux of a bilious Humor upon the Joynts. *Paracelsus* blames Tartar, *Helmont* questions not but this Fever has its Rise from a Febrile Acid, which infects the *Archeus*. *Willis* holds, that this Pain proceeds from the mutual Fermentation of two Humors. *Sylvius* blames the Pancreatick Juice, which is so corrupt, that it is troublesome to the Joynts: For if this Juice have Acrimony in it, it will carry the Bile along with it, and cause violent Pain; but if it be not altogether so sharp, it carries Phlegm, and causes an œdematous Swelling. The *Carrusians* blame Scabrous, Saline Particles, discharged by the Mass of Blood upon the Joynts. *Willis* lay the Fault on any lixivial Fæculences, which are apt to corrode the Membranous and Nervous parts, the Ligaments, or the *Periosteum*; which Fæculences are, at the time of the Fever fit, precipitated to the Joynts, and there produce a throbbing or gnawing Pain.

§. 16. *Cause of a Mad Fever.*

THE Galenists make the Cause of a Mad Fever to be, Blood abounding and poured into the Brain, sometimes enraged Bile, causing a great inflammation, and sometimes adust Bile. *Paracelsus* thinks,

thinks, this Fever arises from the Oppilation of the Spirit of Life. *Helmont* thinks a Febrile Dross seizes the *Præcordia*, and being of the Nature of Poyson, tyrannizes there, and causes Mad Fevers. *Willis* says, these delirious Fevers are produced by the Confusion and Irritation of the Animal Spirits. According to *Sylvius* the Cause is, a sharp Bile, made sharper upon meeting with the Pancreatick Juice, whereby vitious Animal Spirits are produced, which move turbulently, and must of necessity cause Madness. We think, it is sharp Particles, arising from a great Perturbation of Blood which get into the Brain and cause Deliriousness.

§. 17. Cause of a Fever with a Loosness.

THE Galenists in a Fever with a Loosness blame bad, corrupt Humors, especially Bilious which stimulate the Guts to expulsion. *Paracelsus* blames a dissolved salt, which by its Acrimony irritates the Stomach, but especially the guts. *Helmont* blames indigestion. *Willis* thinks, that all sharp, serous, and bilious Humors, do often suffer a Flux in the Mass of Blood, and so are evacuated by the Guts, and cause a Loosness. *Sylvius* here blames the bile as not volatil enough, and made over sharp upon its meeting with the Pancreatick Juice. The Cartesianians hold, that in these Fevers great store of Humors in the Blood are precipitated towards the Guts, which by their irrita-

tion and vellication cause a Flux. And we are of the same Opinion.

§. 18. Cause of a Sweating Fever.

THE Cause of a Sweating Fever, according to the Ancients, is a Fusion and Colliquation of the Humors. According to *Sylvius* it is a Pancreatick Juice more volatil than sharp. According to *Willis* the Cause of this Disease consists in a Dyscrasy and Debility of Blood, inasmuch namely as its Liquor, like sowre Milk, is continually apt to run to Whey, and then its own Serosity, and any other Humors that are mixt therewithal, since they cannot be assimilated, are presently voided; and because the Pores of the Skin are very open, they are discharged rather by Sweat than any other Way. And the Reason why the Blood is so disposed to Fusion, lies in the Predominance of a fluid Salt, or an Acid in its Mass, and sometimes in a degenerate nervous Juice. Our Cause is, an over-high Circulation and Fermentation of the Blood, which, as it were, melt the Blood. Urine and Sweat agree in several Regards. The Suppression of the one encreases the Discharge of the other. Now the Reason why the Urine is stopt, is because the Nerves of the Reins are too much straitned, and hereupon their Fibres are corrugated, and the transcolatory Orifices are shut, which Spasm, when it abates, all is in due order again. But if these transcolatory Orifices be too open, either,

either, because abundance of *Serum* is separated from the Blood, and precipitated to the Kidneys; or because the Vessels, running through the *Omentum*, are too wide, so that potulent Matter may pass that way to the Bladder, then a Diabetick Fever may easily be produced.

§. 19. Cause of Spitting Fevers.

THE Ancients in Spitting Fevers blame almost all Parts of the Body; but especially the Spleen. *Sylvius* says, the Cause is, a Pancreatick Juice, so corrupt, that it flows in abundance to the salival Glands. I do not at all doubt, but in these Spitting Fevers the Glands are affected. For we see in Children, that are troubled with Driveling, how hard the Glands are all about the Neck; therefore the salival Glands receive all the serous Superfluities; because the rest are obstructed, and cannot.

§. 20. Cause of a Fever with the Tooth-ach.

I Think, the Cause of an Odontalgick Fever is an Acid, sometimes very small in Quantity, which pricks, corrodes, and painfully irritates the nervous and fibrous Root of a Tooth. For in a short time not only that side of the Face and Temples; but the whole Head akes, a manifest Sign of the Spasm of the Fibres. Then arises an inflammatory or oedematous Swelling, with a copious Flux of limpid

Spittle, squeezed by the pertinacious Contraction of the nervous Fibres immediately out of the Glands, and mediately out of the Blood-Vessels.

§. 21. Prognostick and Cure.

AS to the Prognostick and Diet, they may easily be gathered from what has preceeded. We shall not therefore use tedious Repetitions but proceed to a succinct Cure; and first of all, of a Chill Fever.

§. 22. Cure of a Chill Fever.

THE *Galenists* say, that thick and tough Phegm must be attenuated and cut; to this end they commend divers Purgers, Incisers Preparers, and especially aromatick and sharp things. *Sylvius* for the Acidity of the Pancreatick Juice, and for cutting of Phlegm, uses divers volatil Salts, and all manner of Aromaticks. To which purpose he commends the following, or some such Mixture;

Take of Water of Parsly two ounces, Fenil one ounce, *Aqua Theriacalis simplex*, or *Vite Matthioli* one Ounce and an half, volatil Salt of Amber one Scruple, Syrup of *Carduus benedictus* one Ounce, Oyl of Cloves three Drops. Mix them.

For the Author never hitherto could observe, that any thing
laid

laid the Cold better, than Oyl of Cloves, which as long as the Cold lasts, may be given three or four times in an hour in some mixture. In this case he Questions not, but Opiates mixt with Oyl of Cloves, Would do good. ~~use~~ in all Agues and Fevers, where there is Heat and Cold, use to prescribe this following with good success.

Take of Treacle two Drachms, *Specificum Strobelbergeri* half a Drachm, Oyl of Cloves two Drops. Mix them, make a *Bolus*.

For all volatils joyned with Opiates do the business. All manner of sharp Aromaticks will do good. So also in the beginning of the Cold fit, fixt Febrifuges may very well be mixt with Aromaticks. This is an excellent Medicine for the common sort in Agues.

Take of white or long Pepper nine Grains, Oyl of the same, or of Cloves two Drops. Mix, and give it in Wine.

If you mix a Grain or two of *theriaca caelestis*, you will have an excellent remedy. While the Cold fit is upon one, distilled Oyl of Cloves, applied to the Epigastrick Region, gives ease, and abates the fit.

§. 23. Cure of a Burning Fever.

THE Galenists in burning Fevers, commend bleeding and all cooling remedies. *Sylbius*, to allay the Heat and concomitant

Symptoms, prescribes the following Apozem;

Take of Roots and Leaves of Sorel two handfuls, leaves of Strawberry, Violets each one handful. Boyl them in Barly Water. To ten ounces of the colature, add of *Syrupus acetositis citri*, three Ounces, *Spiritus salis dulcis* half a Scruple. Mix them.

~~use~~, to temper the Acrimony of the Bile, that is, to correct a volatil acid, more or less oily in the Blood, recommend this following;

Take of Water of Sorel, Plantain, Wood Sorel, Flowers of red Poppy each one ounce, *diascordium* one Drachm and an half, *Spiritus nitri dulcis*, or *Salis dulcis*, from half a Drachm to a whole, Syrup of Purslain three Drachms. Mix, and give it at several times.

Or we may give the following Julep;

Take of a Decoction of *Scorzonera* root one pound and an half, tincture of Roses one Ounce, of Daisie one Drachm, Syrup of red Roses three Drachms, Spirit of Vitriol, as much as will make it grateful.

When the Tongue and Mouth are dried and furred, the Mouth must be washed, and the throat gargled with the following mixture; or it may be held warm in the Mouth;

Take of Water of Housleek, Self-Heal each eight Ounces, fresh Juice
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Juice of River Crabs four Ounces, Sal Ammoniack purified one Drachm and an half. Mix them.

§. 24. Cure of an Epiala.

IN Fevers, called *Epiala*, Medicines made up of the aforesaid contraries will be proper. To which end *Sylvius* commends the following mixture;

Take the Water of *Carduus benedictus*, Cichory each one Ounce and an half, simple Treacle Water six Drachms, destilled Vinegar six Drachms, Crabs Eyes Powdered half a Drachm, Syrup of the five opening roots one Ounce. Mix them.

This following may also be given;

Take of Water of Borrage, Bugloss, Raspberry each one Ounce and an half, Crabs Eyes, Coral prepared each half a Drachm, Sugar of pearl, what will make it grateful. Mix, and give it by spoonfuls.

§. 25. Cure of Thirsty Fevers.

THE Ancients used to prescribe several Juleps, for quenching the thirst. They also commend all Watry and Cooling things, of which the number is infinite. *Sylvius* commends this following;

Take of Barly Water twenty Ounces, Syrup of Purslain two Ounces, *acetositis citri* one Ounce, *Spiritus salis dulcis* half a Drachm. Mix them.

For a parched, and dry Tongue, he commends mucilage of Quince Seeds, and *Psyllium*. In excessive thirst and heat the following, or some such like mixture will be proper;

Take of Spring Water two Pounds, Cinnamon Water half an Ounce, fresh Juice of Citron one Ounce and an half, Syrup of Raspberry, which is sufficient to make it grateful. Mix them.

Lapis prunella, taken in Whey, quenches thirst well. All Tart and Watry things may be here made use of. So the Mouth may be washed with Water, and a little Vinegar or Wine added to it.

§. 26. Cure of a Hungry Fever.

TO stay Hunger, which threatens fainting, all things will be good, which powerfully infringe and concentrate an acid; such as Crabs Eyes, Pearl, Coral, Chalk, &c. powdered, and about fifteen Grains put in some convenient mixture or vehicle. If you put some Oyl of Tartar *per deliquium* among other things, you will certainly cure it.

§. 27. Cure of a Fever with the Heart burn.

IN Cardiacal Fevers the *Galentists* commend divers Stomachicks, Cordials, &c. which have been mentioned before. *Sylvius* in these Cardiacal Fevers commends Opiates. ~~One~~ when we have any suspicion

suspicion of a viscid, acid, sharp or bilious matter, that offends either in some Poysonous, corrosive or viscid Quality, and hangs about the upper Orifice of the Stomach, do commend antimonial Vomits, while the strength is good; but if the patient have lost it, we fly to *Diaphoreticks*, joyned with Opiates, as to our last refuge, which do the whole business in Fevers and Inflammations, and imbibe an acid. So this intention is answered by these volatils; *tinctura bezoartica*, *mixture simplex*, *Spiritus theriacalis camphoratus*, Spirit of Hartshorn, and by these fixt Medicines, *antimonium diaphoreticum*, *aurum fulminans*, corrected and mixt with Ivory, *bezoarticum minerale*, and Hartshorn philosophically prepared. In this case also *essentia carminativa*, mixt with *essentia anodyna* and *castorei*, will be of great efficacy. All Cinnabarines mixt with Precipitants are proper here. The following Powder will be very useful;

Take of *pulvis bezoarticus* one Drachm, prepared shells, Cinnabar of Antimony each one Scruple, Castor half a Scruple, *laudanum Opiatum* two Grains, Oyl of Cinnamon, Mint each one Drop. Mix them. Make a Powder.

And divers Paregoricks may be applied; as bags of Paregorick, and Carminative Herbs, Mint, Wormwood, wild Thyme, Chamomil Flowers, and Tops of Dill. Also divers Unguents may be made of Aromaticks; especially a Plaster may be applied of Gum *tacamahaca* and *caranna* with balsam of Peru.

§. 28. Cure of the Gripping Fever.

WHat Medicines the Galenists use in these Fevers, has been mentioned in the Chapter of the Colick, where you may see what several Authors use. *Sylvius* in Gripping Fevers, among other things, commends the following mixture;

Take of Water of Mint, Fenil, Parsley, Scurvy-Grass each one Ounce, Spirit of Nitre ten Drops, *laudanum Opiatum* three Grains, Spirit of Sal Ammoniack one Scruple, Oyl of Aniseed six Drops, Syrup of Fenil one Ounce and an half. Mix them.

In Our Opinion all Cinnabarines, Anodynes, and Castorines, are good in Gripping Fevers; because they perform every tittle of the Cure: for they are Antispasmodick, and also respect an acid: for instance;

Take of *tinctura bezoartica* one Drachm, *Spiritus salis Ammoniaci castoreatus* half a Drachm, *essentia Anodyna* one Drachm and an half. Mix them. Give it to forty Drops.

To this end also *cephalicum Michaelis*, *liquor cornu cervi succinatus*, *nervinus*, and our *elixir polychrestum*, made of our Alkaline, are proper; all which things do temper an acid, and assuage the membranous Parts, and sensible Fibres. Opiates may also be joyned with Precipitants. Therefore this absorbent Powder will be excellent.

Take of *pulvis absorbens Wedelij* one Drachm, *bezoarticum Joviale*, Cinnabar of Antimony each one Scruple, prepared Castor half a Scruple, *laudanum opiatum* one Grain. Mix them. Make a Powder.

I think also Powder of Crabs Eyes, Pearl, *sperma ceti*, and a little Castor are admirable good, because they imbibe the vitious Acid, as do all Alkalines, but especially mixt with Opiates. Externally divers Topicks are good, which you may find in the *Colick*.

§. 29. Cure of a Swooning Fever.

IN Swooning Fevers the Galenists commend divers spirituous and comfortable things, whose number is infinite. *Sylvius* to prevent Swooning commends the following mixture;

Take of Water of Mint two Ounces, *Aqua vite Matthioli* one Ounce, or Tincture of Cinnamon half an Ounce, Oyl of Cloves six Drops, Syrup of Scurvy Grass one Ounce. Mix them.

We in these Swooning Fevers, the Palpitation of the Heart and Fainting, do use the following mixture, and other moderate Cordials, such as Water of Borrage, *Scordium*, Citron, Treacle, mixt with Syrup of Citron, Baum, and of the stronger sort, Gascoin's Powder, Bezoar, *confectio de hyacintho*, Venice Treacle, &c.

Take of Water of Borrage, *Scordium*, Black-Cherries each two Ounces, Cinnamon with Bugloss one Ounce, prepared Pearl one Drachm, Sugar Candy what is sufficient. Mix them.

Or in these Fevers you may mix Martial Antiscorbuticks, and other Absorbents: for instance;

Take of *species cordiales temperate* one Drachm, *pulvis absorbens* one Drachm and an half, Pearl one Drachm, Oyl of Cinnamon five Drops. Mix them. Make a fine Powder. The Dose is from half a Scruple to a Scruple in a proper vehicle.

The following Mixture will not be improper, to refresh and comfort the Spirits;

Take of Water of Borrage, Roses, Black-Cherries, Cinnamon each one Ounce, Juice of *Kermes* three Drachms, Musk (for such as can bear it) one Grain, Cinnabar Native, or of Antimony twenty Grains, Civet, *laudanum opiatum* each one Grain, Syrup of Coral one Ounce. Mix them. Give it by spoonfuls.

So externally divers Cataplasms and Balsams may be applied to the Heart and Nostrils.

§. 30. Cure of Asthmatick Fevers.

What Medicines the Galenists use in Asthmatick, and short-winded Agues, may be seen in the *Chapter of the Asthma*. For they commend divers Phlegmagogues and Incisers. ~~But~~ in these Diseases recommend divers Pectoral, Balsamick, Sulphurated, and Myrrhated Medicines, mixt with Aperient, Martial ones, which have a Nitrous, Balsamick Salt in them, and Diureticks: this following will do the business;

Take of *Magisterium Saturni*, Crab's Eyes, each one Drachm, Cinnabar of Antimony, Flowers of Sulphur each one Scruple, Flowers of Benzoin, half a Scruple, *laudanum opiatum* two Grains, Oyl of Aniseeds, two Drops. Mix them. Make a Powder.

So divers Vomits will be proper, especially where any viscid Phlegm is in the Stomach; of which we have spoken before.

§. 31. Cure of a Coughing Fever.

IN Coughing Fevers, Sylvius commends divers Opiates, mixt with Volatil and Oyly Salts. For which purpose he extols the following mixture;

Take of Water of Mint three Ounces, *Spiritus carminativus Sylvi* one Ounce, *Ammoniack*

twenty Drops, *laudanum opiatum* three Grains, Syrup of Fenil one Ounce and an half.

In Imitation whereof, I use this following;

Take of Water of Mint two Ounces, Citron rind one Ounce, Spirit of Sal Ammoniack twenty Drops, Salt of Wormwood half a Scruple, Oyl of Mint two Drops, Syrup of Mint six Drachms. Take a spoonful at a time, and as there shall be occasion; add a Grain of *laudanum opiatum*, or *theriaca celestis*.

In a moist Cough this following will be convenient;

Take of Sulphur myrrhatum two Scruples, root of Florentine Iris, *antimonium diaphoreticum*, each one Scruple, Crabs Eyes, Cinnabar of Antimony each half a Scruple, *theriaca celestis* six Grains. Mix them. Make a Powder. The Dose from half a Scruple to a whole one.

§. 32. Cure of an Arthritick Fever.

IN Arthritick Fevers this following will be proper;

Take of *Arcanum duplicatum Mynsichti*, *antimonium diaphoreticum*, Cinnabar of Antimony each half a Scruple, *laudanum opiatum* two Grains. Mix them, for two Doses. Or,

Take of *Bezoarticum Minerale* fifteen Grains, Native Cinnabar
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fix Grains, *laudanum opiatum* one Grain. Mix them.

And a Decoction may be made of Worms in Wine or Whey. And here all Opiates, and all Balsamicks will be proper, especially such as are taken from Wine. Several things may be applyed externally, which you may see in the *Chapter of the Gout*.

§. 33. Cure of a Mad Fever.

Sylvius Cures Mad Fevers by such things as correct and temper the Acrimony of the Bile; such as are Oily things especially, Emulsions and Opiates used inwardly, or applyed any way to the Head outwardly. In these Mad Fevers Vomits are given with good Success, while the strength is good. I highly value all Martial Aperients, Volatil, Cephalick Salts, Cinnabarines mixt with *arcantum duplicatum*, Camphore, Sugar, and Magistery of Saturn, adding (if there be occasion) some *laudanum opiatum*, or *theriaca caelestis*.

§. 34. Cure of a Vomiting Fever.

IN Vomiting Fevers Sylvius advises all things which fix Bile, such as are Austere things and Opiates. we use to give *tinctura bezoartica* mixt with *essentia Anodyna*, or *essentia theriacalis* may be given with half as much of Essence of Opium, about forty Drops at a time. Also all Cinnabarines are good, mixt with Cream of Tartar,

Crabs Eyes, *terra Catechu*, root of *Aron*, a few Drops of Oyl of Cinnamon, Mint, Mace, &c. In this case all things made of Treacle, used either inwardly or outwardly will be proper. I have often with very good success given a Drachm of new Treacle. The following mixture is excellent;

Take of Water of Mint, Raspberry each one ounce and an half, Cinnamon one Ounce, *Spiritus theriacalis camphoratus* three Drachms, *laudanum Opiatum* two Grains, essence of Amber half a Scruple, Syrup of Mint six Drachms. Mix them.

Outwardly bags of Paregorick Herbs may be applyed to the Stomach: for instance;

Take of the leaves of Mint two handfuls, Nutmeg half an Ounce, Cinnamon, Mace each one Drachm, quilt it with Coton in a round piece of Silk; besprinkle it plentifully with *Spiritus vini theriacalis*, or with Oyl of Mint and Juniper.

Or the following Plaster;

Take of new Treacle half an Ounce, balsam of Peru half a Drachm. Or,

Take of sowre Leven five Ounces, Powder of Mint one Ounce, Zedoary six Drachms, three Nutmegs, Mace, Cinnamon each one Drachm and an half, rose Vinegar what is sufficient. Make a Plaster.

§. 35. Cure of Fevers with a Looseness.

IN Fevers with a Looseness *Sylvius* commends the following Electuary;

Take of Conserve of red Roses two Ounces, *diascordium* two Drachms, *confectio de hyacintho* one Drachm, *terra sigillata* one Scruple, Sugar half a Scruple. Mix, and give about the quantity of a Hazle Nut often in a Day.

He also commends Drink with red hot Steel or Gold quenched in it. *we* recommend Treacle, Carminative, Imbibing, Bezoardick, and Opiate Medicines. Here also *essentia theriacalis*, mixt with essence of *Opium*, will be proper. And in this case we prefer Powders and Electuaries, made of the foresaid things before Liquids; and since there are Receipts of them every where, it would not be worth while now to repeat them.

§. 36. Cure of Sweating Fevers.

IN Sweating Fevers, that are hard to Cure, *Sylvius* commends all Austere things; especially this mixture following;

Take of Water of Plantain three Ounces, Cinnamon, distilled Vinegar each half an Ounce, Syrup of Purslain one Ounce, red Coral Powdered one Scruple. Mix them.

This mixture, according to *Sylvius* his Mind, may be given by Spoonfuls: If any one would have it stronger, he may add half a Scruple, or a Scruple of *Acacia*. *Willis* commends divers things; for instance, tincture of Salt of Tartar, about twenty or thirty Drops twice a Day, tincture of Coral, Spirit of Hartshorn, Urine or Soot. He commends all Chalybeates, and the following Powder;

Take of Powder of Ivory, Coral each two Drachms, *Crocus Martis*, *Sal Chalybis* each one Drachm and an half. Make a Powder. The Dose is half a Drachm twice a Day.

we in all Sweating Fevers prefer Saturnines; hence the Antiphthical tincture is of great use in these Sweating Fevers. Nor do we exclude divers austere things, which by closing the Pores of the Skin, do the business.

§. 37. Cure of Pissing Fevers.

Pissing Fevers are cured almost in the same manner, except that Opiates are more proper in these than Sweating Fevers: for *Opium* in regard of its volatil, sharp Salt is Sudorifick, and in regard of its Sulphur Narcotick. Therefore the Flood of Urine in Diabetick Persons is best stopt by Opiates.

§. 38. Cure of Spitting Fevers.

Sylbius cures Spitting Fevers by Hydragogues, Diureticks, and Sudorificks, taken in time, that is, before the fit, for the vicious Pancreatick Juice is carried off by these. We here commend all Aperients, especially Spirit of Sal Ammoniack. So relief may be expected from Opiates, especially from *Diacodium*, Treacle simple and *cœlestis*, and several others. Here also all Decoctions of opening Woods, and *Thea* will be excellent. This following, according to *Ettmuller's* Judgment, will be proper.

Take of Shavings of Juniper two Ounces, Sassafras one Ounce and an half, Bark of *Guajacum* one Ounce, Leaves of Rosemary three Pugils, Juniper Berries one Ounce and an half. Infuse them in about a Quart, or five Pints of Water and Wine, let them stand four and twenty hours in *Balneo Mariæ* in an Alembick. Boyl and destill it to half. Add to the Colature, and what is destilled, of Spirit of Sal Ammoniack three Drachms, Syrup of Marigolds three Ounces. Make an Apozem for several times taking.

Astringent Gargles may be used:

§. 39. Cure of an Odontalgick Fever.

Besides general things, proper for a Fever, in these Odontalgick Fevers, according to *Sylbius* his Judgment, the following mixture will be proper, taking a spoonful often before the Fit;

Take of Water of Betony, Fenil, each two Ounces, *aqua theriacalis simplex* one Ounce and an half, *laudanum opiatum* three Grains, Oyl of Cloves four Drops, *Syrupus Stechades* one Ounce. Mix them.

He often applyed Treacle, Plaster-wise, to the part affected, with good Success. In these Fevers, in my Opinion *Opium* would be good, which taken inwardly procures Sleep and eases Pain, and applyed outwardly to the grieved Part, it stupefies the sense; and so will mitigate divers Symptoms. So root of Smallage, and Benzoin, chewed, cure the Tooth ach. Mouse-ear, Sage, and *Guajacum* Wood, boyled in small Beer, and held in the Mouth, cure the Tooth-ach. Thyme also is proper externally. Various Astringents and Anodynes, may also be applyed to the Temples. This following is a sure Medicine;

Take of Mastich three Drachms, *laudanum* two Drachms, Bole Armenick, Dragon's Blood each one Drachm, *Opium of Thebes* one Scruple. With a sufficient quantity of Turpentine, make a Plaster for the Temples.

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This also may be thrust into the
Tooth;

Put it with Coton into the
Tooth.

Take of Spirit of Wine one Drachm,
Camphore ten Grains. Mix them.

The rest you may find in some
other Chapter.

BOOK

B O O K V.

Of Women's Diseases.

C H A P. I.

Of Wind, Dropſie, and falling down of the Womb.

§. I.

VARIOUS are the Diſeaſes, and as various and dire are the Fits, whereunto GOD and Nature have in all Ages, and at all times, ſubjected the Female Sex, be they Maids, Wives or Widows. The time of their going with Child is of dubious Event; but their Child-bearing turns the Odds into the dangerous Scale. Nay, *Riverius* reckons up above ſix hundred Diſeaſes of the Womb. And certainly the Womb is the occaſion of infinite Maladies and inconceivable Trouble to Women. Conſider, I pray you the Ails that attend the tender and ſoft Bodies of Woman kind, which often invert, if not totally evert their Structure, and how, while they eſchew one miſchief, they incur a greater. In the time of their Virginitie the Poor Wretches can tell you, how the Wain, Full, and

Change of the Moon afflict them. And when Married, what Trouble are they not Liable to? When they are Breeding, they ſometimes long for ſtrange things, and ſometimes loath whatever is ſet before them; ſometimes their Stomach is ſpafmodically affected, and then they are forced to Vomit either all Day, or at ſome certain hours. Towards the latter end of their time, when the Child's Motion is pretty ſtrong, they are ſenſible of Cruel Pains; and if the Child ſeek to enlarge it ſelf, and make its *exit*, how violent is their Pain? But when the Child is near the Birth, what Torture does the Mother not ſuffer? The Scriptures make it ſo exquisite, that no Pain can ſurpaſs this. And when this is over, and the Childbed-purgations come, upon what a Rack do they put Women? Certainly *Helmont's* ſaying is no leſs learned than true, *That a Woman undergoes every Diſeaſe twice.*

A Woman's

A Woman's condition is miserable, compared with Man's; because she is not only Obnoxious to those many Calamities, which the make of her Body, being the same with that of Man's, subjects her to; but she must contend with her peculiar Misfortunes and Miseries, in regard of her Womb, which is ζῶον ἐν ζῶῳ, *an Animal in an Animal*. But I have long questioned, whether all these things are Mechanically performed in the Womb it self, and whether all these Ails can be raised by the sole Ferment of the Womb. However I shall treat of this in its proper place.

First of all there present themselves, Wind, Dropsie, and falling down of the Womb.

The Wind and Dropsie of the Womb oftentimes deceive the Physician; yea, and Patients themselves, they Dreaming of nothing but being with Child. Therefore the Physician must needs be careful in his distinction, that he mistake not Wind, or the Dropsie in the Belly, for Wind in the Womb; or Wind in the Womb for Wind in the Belly; but much more let him be careful, that he mistake it not for being with Child.

§. 2. Difference.

SWelling or Wind in the Womb (which is produced only by Wind preternaturally detained in the Womb) differs from being with Child, because in a Swelling a Decrease and Increase may be observed; in being with Child the Belly always Increases by degrees; besides there is usually Milk in the Breasts: And it differs from Wind in the Belly; because, when it is in

the Belly, a rumbling may be perceived all the Belly over.

§. 3. Description of the Dropsie in the Womb.

THE Dropsie of the Womb is a watry gathering, sometimes in the substance of the Womb, sometimes between its Membranes, rarely in its Cavity; and sometimes in the Testicles, out of which I have often seen three quarts of Limpid Water taken.

§. 4. Description of the Falling down of the Womb.

THE Falling down of the Womb is falsely so called; since it is rather the extension of the inner and rugous *vagina* beyond its Seat and Place, within which according to nature it should be contained; for the following Arguments evince, that the Womb it self cannot fall down; because the Strength of the Ligaments, by which the Womb is fastened to the adjoining parts, cannot be separated by the greatest Violence; and the shortness of them, being not a Span long, will not suffer the Womb to turn out at its inner Neck: Therefore the Falling down of the Womb, which is vulgarly so called, is only the falling down of the *Vagina*: For if the Womb it self fall down, it could not so easily be replaced, as we find it is. Yea, I dissected a Woman, who had a Falling down of the Womb, and though it seemed, as if the whole Womb had been fallen down; yet it was fast to the Ligaments. And the Famous *Van Mekern*,

Meckern, a Surgeon at Amsterdam, observed it, as well as I.

§. 5. Signs.

AS for the Diagnostick of a Dropſie or Inflation, it is very difficult and obſcure, becauſe when the Womb is afflicted with any cold humours, it uſually ſuffers the ſame Symptoms and Signs; yea, this Diſeaſe is very difficult to be diſtinguiſhed from Impregnation. But you may eaſily attain the Diagnostick, if you obſerve the Precedent cauſes, and the particular Symptoms of this Diſeaſe, and the *adjuvantia* and *laedentia*. The uſual Symptoms are a Swelling gradually encreaſing, and continuing too long time without any ſenſe of Motion or Life, to be a Conception, a Weight alſo about theſe Parts, and ſometimes a Fluctuation, with a ſenſe of Cold or Pain; there is a waſting of the upper parts, fits of the Mother, and a ſuppreſſion of the *Menſes*: but there is ſome Serous or Pituitous Excretion, when an humour is gathered in the Cavity of the Womb; and if there be Wind, you may know it by the puffing up and rumbling in it. The Famous *Sebizius* has a Hiſtory of a Woman at *Strasbourg*, that had a Swollen Belly for above ten years, who had both a Dropſie, and a *Mola carnoſa* in her Womb.

§. 6.

THE Signs of the Falling down of the Womb, are evident of themſelves, and told by the Patient. The Signs alſo of the Cauſes are eaſily known, if a Phyſician look but about him, as he ought; for an

Afflux of Blood may be known by the Signs of a *Plethora*, and the ſtoppage or exceſs of the *Menſtrua*; and ſo may a Serous or Pituitous Humor.

§. 7. Causes of Inflation and Dropſie in the Womb.

THEſe Diſeaſes have the ſame cauſes in a manner, as the Tympany and *Aſcites* have, which you may ſee in the Third Book. For here is a particular extravafaſion of the *Lympha*, and a Concentration of Wind. We doubt not therefore, but there is an acid Phlegm lodged in the Womb, and rarened into Wind, ſo that it cannot do its Office. But if inſtead of Wind there be a Viſcid and thick *Lympha*, and if there were formerly an Obſtruction or Compreſſion of the Lymphatick Veſſels, the *Lympha* muſt needs ſtagnate and breed a Dropſie.

The Procatartick Cauſes are Refrigeration of the Genital Parts after Childbed or the *Menſes*, or Cold taken in the Hands or Feet, before the time of the *Menſes*, or dabling in cold Water, or the abuſe of Cooling and Repellent Medicines in inflation of the Womb. Alſo acid, watry, groſs and viſcous Seed often cauſes theſe Diſtempers. Hither alſo may be reckoned too much ſmall Drink, much Sleeping, an idle and ſedentary Life, (ſuch as a Woman's generally is) Trouble of Mind, Sorrow, Care, and ſuch things as that Sex lay to heart; Excretions alſo, both Universal, and Particular of the Womb ſuppreſſed, and miſchances by a blow, fall, inflammation,

mation, Contusion, Scirrhus, Ulcers, and such like cases.

§. 8. Causes of the Falling down of the Womb.

THE Causes of the Falling down of the Womb are either Internal or External; the Internal are the Relaxation and Emolliation of the rugous Coat in the *vagina uteri* by an Afflux of Blood, Serum, or some other humors. So likewise the internal Parts may be corroded by the Acrimony of the Humors, that flow thither, and so a Proci-dence may be caused. These Parts also may be torn or dilated by a fall, an Ulcer, difficult Travail, or an unskilful Midwife.

The External Causes are several, an over Cold and Moist Air, Bathing, Oyntments, Cataplasms, and Emollient and Cooling things, too much Drinking of Water, Slippery Diet, Diureticks and Menagogues given in over great Quantity, excessive and unseasonable Sleep, especially in moist and cold places, too violent exercise of the Body, either Walking, Travelling a Foot, Dancing, Riding, Coughing, Sneezing, or Vomiting, &c. Sudden Passions of the Mind contribute their Share, especially Anger, Grief, Care, &c. Excretions either suppressed or immoderate, as the suppression of the *Menstrua*, their excessive Flux, the Flux of the *Lochia*, or the Whites, Costiveness, Looseness, Dysentery, *tenesmus*, excessive Venery. And so this Disease may easily be produced by a Blow, a Fall, Contusion, Ulcer, by the Midwife's drawing away of the Child or the

Secundine violently, a *Mola*, a dead Child, &c.

§. 9. Prognostick

NOW we have done with the Causes, we will proceed to the Prognostick. The Inflation and Dropsie of the Womb are difficult to cure, as all other Dropsies are; and by reason of their grievous Symptoms often prove Mortal; such as Inflammations, Ulcers, Scirrhi and Cancers, which follow poor Women to their Graves.

The Falling down of the Womb is of it self no dangerous Disease; but by accident it may prove Hazardous, especially if an Inflammation, Ulcer, Gangrene or Mortification supervene; or if the Suppression of the *Menses*, Fits of the Mother, Pain, Fever or Convulsion follow, &c. This Disease, because it is usually of long continuance, is called Chronical, and is difficult to be cured, especially if the Proci-dence be great and inveterate, or produced by a violent cause in a Body, that is Cachectick or weakened by other Diseases.

§. 10. Cure of Wind and Dropsie of the Womb.

THis thing being premised as to Theory, we will proceed to Practice. Wind and Dropsie of the Womb require a Diet, that is heating, drying, aperient and carminative or discutient. When this is done, Humors, especially the Serous, must be corrected and evacuated; and if there be Wind, it must be discussed.

We may proceed therefore firſt with inciding, attenuating, opening, and diſcutient Medicines; to wit, Decoctions of the opening roots, of Wood of *Guajacum*, *Saffraſ*, *China*, *Sarſaparilla*, which are Sudorificks, and ſo expel the Serum. Theſe things alſo are good; Wormwood, leſſer Centaury, *Soldanella*, middle rind of Elder, Bay-Berries, Juniper-Berries, Nettle-Seed, adding uterine things, Roſemarry, Majoran, Penny-Royal, Mugwort, &c. Therefore this following Spirituous and Aromatick Liquor will be proper, to keep all quiet;

Take of Water of Roſemary, Penny-Royal, Mugwort each one Ounce and an half, *aqua hyſterica* one Ounce, prepared Crabs Eyes, *tartarum vitriolatum* each half a Drachm, Oyl of Salt eight Drops, ſpirit of Elder half an Ounce, Syrup of the five opening roots one Ounce. Mix them.

Here alſo are proper all Carminative volatil Oily Salts, things that move the *Menſes* moderately, Gums, Myrrh, Caſtor, and all Martial and Cordial Medicines. Theſe things premixed, all Hydragogues are proper: for inſtance;

Take of *extractum hydragogum* half a Scruple, Magiſtery of Gum *Gutta* five Grains, *Luna Hydragoga* two Grains. With eſſence of Mugwort make Pills, to be taken according to the ſtrength and age of the Patient.

Syrup of Buck-thorn often repeated is excellent in this caſe. And ſo are all Medicines made of Jalap, eſpecially its tincture. Berries of

Elder, Dwarf-Elder, Juniper and Bayes are good, eſpecially in Wind of the Womb;

Take of Rob of Elder two Drachms, *extractum carminativum* one Scruple, Reſin of Jalap fix Grains, Oyl of Aniſeeds one Grain. Mix them. Make a *Bolus*.

Juice of Briony root collected and given our way, affords great relief. When things are thus prepared, we muſt endeavour to diſcuſs the Humor by Sudorificks and Diureticks;

Take of Spirit of Tartar, *Saffraſ* each one Scruple, nitre dulcified fifteen Grains, *antimonium diaphoreticum* one Scruple, Water of Penny-Royal, *carduus benedictus* each one Ounce and an half. Mix them for a Doſe.

Such Diureticks are alſo good, as we have recommended in the Dropſie; and ſuch Plaſters and diſcutient Cataplaſms, as we have there preſcribed, adding alway Volatil or fixt Salts, or ſuch things as abound with them, Lungs of Animals and Oily and Aromatick things. Peſſaries, Baths and Fumes may be here ſucceſs fully uſed. *Pharamundus Rumenius* his inſtrument is good to get Water out of the Womb.

§. II. Cure of Wind in the Womb.

ALL things that abſorb an Acid, and conſiſt of aromatick oily Parts are good to diſcuſs Wind. The following mixture was given with good Succeſs;

Take

Take of *Aqua Carminativa* four Ounces, Orange Water drawn with Sack one Ounce and an half, *Spiritus ſalis Ammoniaci anisatus* one Drachm, *Spiritus nitri dulcis* one Scruple, Crab's Eyes prepared one Drachm, Syrup of Orange Pill fix Drachms. Mix, and give it by ſpoonfuls.

Root of *Doronicum* is commend- ed as a Specifick in this Diſeaſe. Divers Carminative Externals may be uſed, Fomentations, Cataplaſms, &c. You may ſee the Medicines for a Tympany. Sometimes they may be mixt with Hyſterick Specificks. A Bag may be made of Millet with Uterine and Carminative Herbs; and internally Carminatives may be mixt with Purgers. Glauber has an excellent way of getting the Impurities and Wind out of the Womb, by a peculiar inſtrument: He puts in Salt of Tartar, and Sal Ammoniac, or the fume of them, that it may the better reach the Womb. Since there is ſeldom an inflation of the Womb, without extravaſated Serum, therefore Hydragogues muſt be mixt with Carminatives.

§. 12. Cure of Falling down of the Womb.

THE Cure of the Falling down of the *vagina uteri* is two fold; True and Palliative; and both of them have three Indications: 1. To remove all things that impede the replacing of the *vagina uteri*; ſuch as Inflammation, Tumor, Gangrene, Ulcer, Excoriation, Coſtivenes, Stoppage of Urine, the *Menſes* either ſuppreſſed or too fluid. If then there be Wind or Excrements

in the Gutts, the Clyſter following may be given.

Take of the Ingredi- ents for the Carminative and Emollient Decoctions each one handful, Flowers of Bays half an handful, Seeds of Cumin, Caraway each two Drachms. Boyl them in a ſufficient quantity of Common Water. In eight Ounces of the Colature, diſſolve of *Electuarium lenitivum*, de *baccis lauri* each three Drachms, one Yolk of an Egg. Make a Clyſter.

2. Then let the part, that is fallen down and extended, be put up again into its place, but firſt let it be waſhed with ſome abſtergent or gently aſtringent Decoction, or let it be anoynted; yet then there muſt be no Inflammation, *Eryſipelas*, nor Gangrene. And ſuch a Fomentation may be uſed;

Take of leaves of Oak, Medlar, Plantain each one handful, root of Tormentil, Biſſort each one Ounce, Alum half an Ounce. Shred them, put them in a Bag, boyl them in Wine, and apply them as they ought, to the part.

A Powder may alſo be ſtrewed upon it, made of Conſolidants and Aſtringents, ſuch as Frankincenſe, Myrrh, Maſtich, *Sarcocolla*, red Roſes, and Juice of *Hypocyiſtis*. But above all things we muſt take care, when it is replaced, to keep it in its place, and knit it to the adjoining parts. To which end the following Decoction will be proper;

Take

Take of Rupture wort one handful and an half, Flowers of red Roses, leaves of Mugwort, Motherwort, each half an handful, Root of Plantain, Bistort each one Ounce, boyl them in red Wine or Smith's Water, and foment or wash the *vagina* with it.

Then use this or some such like Liniment;

Take of *Unguentum Comitiffæ* six Drachms, *Crocus Martis astringens* two Drachms, Powder of Mastich half a Drachm, Oyl of Myrtles, what is sufficient for a Liniment.

Then strew on some of the fore-said Powder, and set your self to the reduction of it, which you may best do, by placing the Woman on a Table, or in a Bed, so that her Head may be low, and put it gently into its former place, either with your hand alone, or with warm Cloths. Let the Patient draw in her Breath. And when the part is put into its former place, care must be taken to fasten it inwardly, for which end divers Plasters may be applied to the *Pubes*, and to the part it self; for instance;

Take of *Emplastr. matricar. Rumel.* as much as shall be sufficient to amass with a little Bear's Grease. Spread it on Leather. Or,

Take of our usual Plaster *contra rupturam* what is sufficient, *Crocus Martis astringens* three Drachms. Mix them with some Bear's Grease.

Palliatively also the protuberance of it may be hindred with Balls or Rings (which I prefer before Balls:) Wax, Rosin, or Gumm, is good.

In the true Cure internal Vulneraries and light Astringents must not be neglected;

Take of rasped *Guajacum* five Ounces, Sassafras, *guajacum* Bark each one Ounce, leaves of Ladies Mantle, Winter Green, Speedwell each half an handful, seeds of Plantain two Drachms, boyl them in a sufficient quantity of Common Water. To thirty Ounces of the Colature add of *Syrupus de Symphyto Fernelii* three Ounces. Mix them.

Then the Symptoms, as there shall be occasion, must be abated.

Pessaries also made of Astringents are good: But before these and all other things some prefer fumes of a Salt Eel's skin, Hypocystis, dried Cow's Dung, Alum, Musk, *Acacia*. A Clew of Hempen Yarn may be applyed with Wax; and ashes of Beetles may be often strewed on the Part, or the patient may sit upon cold Oaken Wood.

C H A P. II.

Of the Hysterick Passion, or fits of the Mother.

§. 1.

THE *Hysterick Passion*, is in Latin, from the most Urgent Symptom, called *Suffocatio Hysterica*, in English we call it, *Fits of the Mother*, because it is vulgarly held to arise from the Mother or Womb, but how truly, I shall not now examine, since that is decided by others already. It is a Concurrence of divers Symptoms, arising generally from an austere humor, and a Disorder of the Spirits in the Womb. *Belmont* calls it *Asthma uterinum*. In Men some call it, *suffocatio hypochondriaca*, as in Women it is called *suffocatio uterina*. *Sylvius* calls it *suffocatio* and *strangulatio hypochondriaca*, both in Men and Women. It is certainly a most grievous Disease, and comprehends various Symptoms under it; and therefore it frightens not only the poor Patients, but the very Physicians and By-standers: For Women sink down on a suddain, their Body is Chill, their Breath and Speech is gone, their Pulse ceases, and sometimes Sense and Motion is abolished, so that they ly in a manner for Dead. But more of these things in the Diagnostick.

Difference.

THis Hysterick Passion is very Analogous to an *Incubus* in Men, and in some things agrees with an Apoplexy. But it is distinguished from that, because in the Hysterick Passion there are Convulsions and Pain; but in an Apoplexy there are none of these Symptoms. And in an Epilepsie there are far more grievous Convulsions than in the Fits of the Mother. And thus this disease may easily be distinguished from other Cognate Diseases. But we need be the less solicitous about distinguishing of these Diseases, because the Cure in all of them is the same.

§. 2. *Part affected.*

VWith the old *Galenists* the place affected is the Womb, which they, as well as the Vulgar, thought arose up to the Throat. But this opinion, that was formerly held by the Vulgar and (which I admire at) by most Physicians, is now quite confuted by the Moderns; so that there is no need to say any more against it.

Sylvius takes the *Pancreas*, the Guts, Stomach and Gullet for Parts

Parts affected, which in this Disease seem to be contracted. *Wilmont* says, in Fits of the Mother, the Patients complain, when they are able to speak, of a Tension of the Inter-costal Muscles, and they think, they are strait girt with something about the Ribs, or that a Stick is thrust from below into their throat. And therefore he says, that the Stomach carries the Keys of the Womb. *Willis* reckons it is the Brain; because the Nervous kind is affected. We blame not only the Womb with its Vessels and Glands; but the Nerves and the first ways, wherein the cause often lies, which uses to be communicated to the Heart and Brain, and hence comes a multitude of Evils. But before we proceed any further let us inquire into the principal Symptoms; that from them, as from known premises, the genuine cause of this Disease may be assigned.

§. 3. Diagnostick.

Difficulty of Breathing accompanies this Disease, there is a choaking in the Throat, and a kind of a Bullet in it, or as if a Stick were thrust into the Throat, there is rumbling in the Guts, sometimes nauseousness, seldom Vomiting, Yawning, Palpitation of the Heart, and Heart-burn are often its attendants. In the Fit the Pulse is low, sometimes quite abolished for a quarter, half, or a whole hour, now and then for a Day or two, so that some such have been taken for Dead, no signs from whence we might judge there was Life, appearing; as abundance of creditable instances in good Authors testify. The

Throat is so straitned that the Patients seem to be strangled, then a notable Paleness and Chiliness follow, Motion and Sense are sometimes wholly, sometimes only in Part, taken away. Oftentimes a round thing may be felt in the *Abdomen*, to pass up to the Diaphragm, which they say is the Womb; but they are mistaken; because the Womb is fast tied by its four Ligaments. There are also Swoonings, various Convulsive Motions and Epilepsies, the *Menses* are often suppressed. A Pulsation may be felt in each *Hypochondrium*, especially in the Left. The Patients complain of restlessness, Thirst, divers Pains in the Head, especially Stomach, Limbs, &c. Sometimes they are Costive, and yet Lenitives make them worse, as I observed in a Woman, who upon taking an emollient Clyster with half an Ounce of *Electuarium diacatholicon* in it, went to Stool twenty times, swooned, and her extreme Parts were Cold. At length, unless the Patients die, after the Fit is over, Motion and Pulse is restored to the Heart and Arteries, the Breast extends, and respiration is renewed, their Speech comes to them, and they complain of Oppression at the Heart. Some cannot bear Perfumes, to wit, Amber, Musk, Cinnamon, Roses, &c. The Scent whereof several Men cannot endure; we have an instance of it in *Lewis* the Fourteenth, the present French King. And these are the most grievous Symptoms of this Disease: but it were impossible to name all.

§. 4. Cause.

NOW we will proceed to the Causes of this Disease, which, in the Opinion of the *Galentists*, are Malignant and Poysonous Vapors proceeding from Blood and Seed corrupted in the Womb, and from other humours gathered there, acquiring a Malignant and Poysonous Nature, which are elevated by the Veins and Nervous Kind to the upper Parts, and as they are carried to this or that, produce divers Symptoms.

§. 5.

Sylvius seems in a manner to agree to this Doctrine; but he expresses the thing otherwise, and says, that a Contention is raised between the Pancreatick Juice, carried into the *intestinum tenue*, and Bile there, consisting of a lixivial Salt, Oyl and Volatil Spirit; the Author terms it an Effervescence. From which vitious Effervescence, he questions not, but austere Vapors arise to this or the other part, and from thence all those Symptoms, which we meet with in Hystericks, arise.

§. 6.

Helmont thinks, that this Disease comes not from a Corporal confluence of Humors and Vapors in the Ventricles of the Brain, but that it is a Disease by Deuteropathy, and that the Womb, which would otherwise be quiet, is put into a rage by Anger and Grief. Indeed the Womb, as he says, never gets higher than the Diaphragm:

However it makes People Apoplectick.

§. 7.

Villis reckons this among Convulsive Diseases, and he derives the Causes from thence.

§. 8.

We think, that in the lower Parts of the *Abdomen*, but especially in the Womb, there are animal Spirits, which being contained in the Fibres of the Womb, if they be obsequious, gentle Motions are constantly made: But if these Spirits be much provoked by something vitiously Austere, that is apt to ferment, then they become Tumultuous, and being thick crouded, and not able to get out, they distend, tear, and dilate the Membranes among which they are interwoven, and puff them up, as if they were blown up with Wind, hereupon the Folds of the Womb and Mensentery being moved by the Spirits, do swell, jump and leap within the *Abdomen*, and likewise the Coats of the Stomach and Guts being in like manner puffed up, by the Expansion and Impetuosity of the Spirits, are variously distended and tormented with Wind: In this Convulsion, while the Guts and *Abdomen* are Convulse, the Motion is sometimes continued to other Parts, hence comes that Globe in the *Abdomen*, and from the spasmodical contraction of the Throat, that Bullet in the Throat: hence come Epilepsies, &c. In this most grievous Disease, from the same Acid or Austere at length there

there supervenes a stagnation of the coagulated Blood, and from thence a total Suffocation of the heart.

Among the Procatartick Causes we reckon a cold Air, Sowre or Austere Food, or bitter, and sometimes sharp, all perfumes held to the Nose, Musk, Cinnamon, Roses, and Civet. Sleep and Watching exceeding their bounds, are hurtfull, and so is excessive or unseasonable exercise of the Body, and a sedentary Life; but Sudden and Violent Passions of the Mind, such as Grief, Care, Fright, Anger, Love, &c. are most effectual Causes, and last of all Excretions, when there are either none, or intermitted, or excessive.

After the Hysterick Fit has lasted a while, the Patients come to themselves, very much tired with their Convulsions, and their Limbs ake as if they had been beaten with Staves; and indeed the Cause is in both Cases the same: for as by the blow of a Staff the Fibres are broken, whence comes Pain; so likewise by the Convulsions the Fibres are broke here and there, which occasions this Pain.

§. 9. Prognostick.

WE will now briefly touch upon the Prognostick. This Disease is not very dangerous: for of it self it is seldom Mortal, though in regard of conjunct Diseases, or supervening Symptoms it may now and then prove Mortal: But it lasts long and is contumacious, especially if time have settled it, or if it be attended by many grievous Symptoms, principally in old Women. And Virago's are altogether as liable to this

Disease as sedentary Women, because their Blood is spirituous, and their nervous texture strong. It is a dangerous Disease for Women in Childbed, and with Child. Sometimes it degenerates into an Epilepsie, an instance whereof I knew in this City. That Aphorism also of Hippocrates 5. 35. has relation to this place, *Sneezing supervening to a Woman with Child, is good;* because by that violent Motion, the Humors, they being but small in quantity, that cause the obstruction, are expelled. So also it is good, if plentiful belchings supervene, which Sylvius has observed, for they often put an end both to the Fit and the Disease.

§. 10. Dietetick Cure.

OUT of the Fit look well to the Diet, and avoid all abuses in it. Let the Air be temperate, avoid a sharp, Northerly one, and the smell of a Candle Snuff, Musk, Civet, and other Sweets.

The Food must be of a good Juice. Forbear all things that are Austere, Acid, Salt, and Difficult of Concoction and Fermentation, such as Chestnuts, &c. All things likewise, that are Smoak-dried, are bad. The Drink must be well wrought Beer or small Wine. All Beer, that is not well Boyled and Fermented, is naught, and so is drinking of Water, new Wine, &c.

Motion and Rest, the excreta and retenta, especially the stoppage of the *Menses*, a Costive Body, and Retention of Seed, if they exceed bounds, fail not to occasion this Disease.

Sleep and Watching must be kept within bounds; for excess in them does harm, because it breeds crudities.

The *Mind* must be kept cheerful; Sorrow, Fear, Consternation at unexpected events, and such Passions may easily cause this Disease.

§. II. Pharmaceutick Cure.

THE old *Galenists* have two curative intentions in Fits of the Mother, one in regard to the Fit when it is present, the other in regard to the time free from the Fit. They therefore endeavour, that the malignant Vapor rising from the Womb may be dissipated, and averted from the principal parts, then, that the Humor, whence the Vapor arises, may be evacuated, and cast out of the Body, and at length, that the Parts may be strengthened. If a Woman therefore be in a violent Fit, they commend loud Shouting, plucking the hair, and the ears especially, Ligatures and Frictions; but above all, according to our observation, tickling the soles of the Feet discusses the Fit. They are also for cupping the Calves of the Legs and the Thighs with much Flame. They hold strong scented and stinking things to the Nose; such as Castor, *asa fetida*, smoak of Partridge Feathers, of Hoofs and Horns, &c. that the Malignant Vapors may be discussed: for which end they burn the great Warts, that grow on Horses Legs, as a secret, and hold them to the Nose. They apply divers sweet things to the *Pudenda*, such as Civet, Musk, and *Gallia moschata*, that the Motion of the Humors and Spirits may tend downward, and be abated.

They make Revulsion also of the matter, that flies upwards, by Clysters made of Uterines and Carminatives. And to take away the matter of the Vapors it self, they apply Pessaries (which they barbarously call *nascalia*) to married Women they put divers sternutatories into the Nose, they drop Oyl of Sage, Amber, Spike, &c. into the Ears; they apply a *Galbanum* Plaster to the Navil. And if the Fits proceed from stoppage of the *Menses*, they order bleeding, and give several Uterines and Anodynes, which you may find in several Practitioners.

Out of the Fit they endeavour, if it come from corrupt Seed in the Womb, to evacuate it by Uterine Clysters and Pessaries; they apply proper Plasters and Oyntments to the Region of the Womb, for which end *Sennertus* commends the following Unguent;

Take of liquid *Storax* two Drachms, Cloves, Seed of *Agnus Castus*, *Angelica* each half a Drachm, *Alypta moschata* one Scruple, Oyl of Nard, white Lilies, Wax, each what is sufficient. Make an Unguent. And the Plaster following;

Take of Seed of *agnus castus* one Drachm, all the Sanders each half a Drachm, Powder of white Roses one Drachm, Gum *tacamahaca* one Drachm and an half, *caranna* two Drachms, *alipya moschata* half a Drachm, Turpentine, *ladanum*, Wax, what is sufficient. Make a Plaster according to Art, and let it be duly applied.

But if the Fits came from the Retention and Corruption of the *Menstrua* all things that provoke the *Menstrua*, which shall be hereafter mentioned, will be good, and bleeding, also, as was said before.

And the only aim of all the Galenists is, to discuss malignant Vapors, and to strengthen the Womb, for which end they extol Bawm, Mint, Penny-royal, Calamint, roots of Angelica, Masterwort, Spignell, &c. but especially Briony roots, and they destil divers Waters from these and other Aromatick things, and they make Powders of them, such as *species galangæ*, *diacalamint hæ*, *diacinnamomi*, &c. They also highly value Treacle, Mithridate, *requies Nicolai*, and Castor, out of which they make divers Receipts, which all Galenical Books are full of.

§. 12.

Paracelsus above all things commends anointing the Navil with Oyl of Tin, which is thus made; dissolve Tin in *Aqua fortis*, and reduce it into Cerus, this must be washed and dissolved into Crystals, which being destilled will yield a sweet Liquor and yellow Oyl; out of the remainder a Salt may be got, which in a Cellar will dissolve into Oyl.

§. 13.

Helmont says, although sweet and grateful Scents indispose many Women; it does not therefore follow, that all strong and stinking things must cure them: for he says, that burnt things and

the smell of burning Sulphur, do not refresh Hysterick Women, as they stink, but as they check and destroy the external *Idea*'s which are impressed on the Womb. The Author recommends all bitter things to Hysterick Women. His Hysterick *arcana* are *dulcedo Sulphuris* made of *vitriolum Veneris*, tincture of Coral, essence of Amber and Agate, white dead Nettle, stinking Horehound, Rue, Southernwood, Sage, Nep, berries of Elder, Dwarf Elder, *asa fetida*, the wart of a Horses Leg, red Coral; he goes on and says, all simples do not equally cure bewitched Persons; so neither do they Hysterick Persons; for each of them has its singular endowment of *Idea*, and takes away its opposite Disease. Wormwood, Sage and Rue drive away *Idea*'s of fear. Mugwort, Nettle, stinking Horehound, and black Currans are good in cases contracted from Grief. *Asa fetida*, Castor, Elder Berries, and essence of Agate are good in cases of Anger. *St. Johnswort*, and *Phutertium* in mad *Idea*'s. A dried Hare, the testicles of some Beasts dried in the Smoak, a Stag's Pizzle, *agnus castus* and Amber in Libidinous *Idea*'s. Also *electrum minerale*, prepared Coral, and greater *Arcana* are next to an universal Medicine, near to which the Secundine of a first born Male, the Gall of a Snake, &c. do approach. And these *Arcana*, *Helmont* says, seldom fail a Man. On the contrary in Diseases of the Womb he contemns all sweet things, because in his Opinion they disturb the quiet of the Womb.

§. 14.

Willis in this Case commends all the Antispasmodicks, which he advised in an Epilepsie.

§. 15.

Spiritus, be the cause what it will, for Fits of the Mother commends, all volatil Salts, and above all of them, Spirit of Sal Ammoniack, about 3 or 4 Drops or more, taken often in a spoonful of Wine, or some other proper Liquor. For discussing austere Wind and Vapors, beside this Spirit of Sal Ammoniack, he commends Spirit of Castor, its tincture, and Oyl of Amber, Mace, &c. destilled. But when the steems or wind are both glutinous and sharp, he highly values *spiritus nitri dulcis*, and Spirit of Orange Pill, Rosemary, &c. But where the Vapors are more Watry, beside the foresaid Volatil Salts, he advises the giving of Aromatick tinctures of Cinnamon, Saffron, Mace, not neglecting now and then to use Hydragogues, for to abate the redundant watry Humors in the Body. For discussing the austere Wind and Exhalations, that get up to the throat, he commends the abovesaid Volatil Spirit of Sal Ammoniack or some Aromatick or Oleous Salt. Among Alteratives he commends all Aromaticks. Among Roots he commends root of *Asarum*, white Dittany, red *Iris*, tincture of Sowbred, lesser Centaury, *Aristolochia rotunda*, Gentian, Schœnanth, Spike, &c. Among leaves, Savine, Penny-royal, Mugwort, Rue, Bawm, Horehound, Calamint, Horse-

mint, Nep, Flowers of *Cheiri*, Saffron, Rosemary, Broom. Among Seeds, *nigella*, Parsly, Lupines, Smallage, Fenil, Lovage. Among Berries, Bay. Among Spices, Cinnamon, Mace, *cassia lignea*, Xylaloes. Among Gumms, Myrrh, Castor, *Galbanum*, *Sagapenum*, Amber, Mastich, *Storax*, *lacca*, *asa fetida*. Among Metals, Filings of Steel. But he especially commends his *Sal volatile oleosum*.

§. 16.

V**V**E do all we can, when we are curing this Disease, that out of the Fit, the cause being removed, the Acid, Austere or Pontick Humor may be corrected, and in the Fit that the Spasmodick Concussion and Suffocation may be removed. All things take away the spasmodick Concussion, which reduce the Animal Spirits, as they are making their Excursions, into order again: for which purpose we commend all volatil urinous Salts, and other fetid and subtil, sharp things, such as volatil Spirit of Sal Ammoniack, Soot, Horses hoof, tincture of Castor, Amber, *asa fetida*, Paper, or Partridge Feathers, burnt. The virtue of such subtil Scents or Stinks shows it self almost by a sensible effect in these Persons; as the smell of generous Wine or any other Aromatick thing does in such as are extreme Weak or in a Swoon; so that sometimes it seems to call them to Life again. In several Hysterick Women strong scented things, such as *asa fetida*, Castor, burning of Feathers, and smelling to Volatil things do good. Perfumes are able to raise stupendous Symptoms,

Symptoms, inasmuch as they affect the animal Spirits in the Womb: but 'tis admirable, that Perfumes taken in substance should effectually stop Fits of the Mother. *Horatius Augenius* has the following experiment, as it is related *l. 12. Epist.* But you must observe here that Idiosyncrasies do notably vary;

Take of the best Musk five Grains, Cinnamon, Cloves, Nutmeg each one Scruple. Give it in a Glas of some vehicle.

In the same place he commends Musk Pills as an effectual remedy; but have a care that the scent of them reach not the Nose. There are some Women also, that cannot bear Castor and stinking things And this you must also observe in your Practice, that Women who are Hysterick from their Liver, abhor sweet things. Wherefore a Physician must abstain from them.

Yet the effect is the certainest from volatil fetid things. The following Powder seldom failed me;

Take of *fecula bryoniae* one Scruple, prepared Pearl half a Scruple, red Coral prepared, Castor each one Scruple, warts of Horses legs prepared half a Scruple, destilled Oyl of Rue, Amber each five Drops. Mix them. Divide it into three equal Parts, give them successively in a convenient Vehicle.

It wonderfully appeases the Plastick Spirit, and the Convulsive Coarctation of the Throat and other parts presently ceases. A Grain or two of *laudanum opiatum* may

be added, And this that follows is as good;

Take of *Pulvis absorbens Wedelii* one Drachm, *bezoarticum Foviale*, Cinnabar of Antimony each one Scruple, Castor half a Scruple, *laudanum opiatum* one Grain. Mix them.

For in the Hysterick Passion Jovial, Saturnine, Anodyne, Castorine, and Cinnabarine Medicines, perfectly quiet these Convulsive Motions, imbibed the austere Humor, and perform the Cure. *Tinctura bezoartica*, with Spirit of Sal Ammoniack, and tincture of Castor, or *elixir uterinum* mixt with *essentia anodyna*, are generous remedies. I have found the following Hysterick *laudanum* by my Practice to be an noble Medicine, which I am willing to communicate for the benefit of the Sick.

Take of extract of *Opium* made with Vinegar one Drachm, *Zedoary* half a Drachm, warts of Horses legs, root of *Calamus aromaticus* each half a Scruple, native Cinnabar, Castor each twelve Grains, Saffron fifteen Grains, Oriental Bezoar Stone half a Scruple, Oyl of Amber, Rue each what is sufficient. Make an extract according to art. Three or four Grains of it given in Bawm or Calamint Water, do Wonders. If you want these Waters, you may give it in table Drink.

Johannes Agricola cries up the following *laudanum opiatum*;

Take

Take of *laudanum opiatum*, extract of Liverwort each one Drachm, *oleum Saturni*, *Jovis* each half a Drachm. The Dose is two or three Grains.

Extract of Liverwort is made thus;

Take of Liverwort a sufficient quantity, pour some Bawm Water to it, put it into a Glass, for extracting the tincture, draw it off to the consistency of an extract.

When the Disease is very bad, there is a stagnation of the Blood, some way grown Grumous in the *Præcordia*, for the Patient can neither move her Breast, nor draw her Breath. For correcting the Acid, removing the *Coagulum* of the Blood, and for facilitating respiration, this following will be good;

Take of Crabs Eyes prepared, one Scruple, *antimonium diaphoreticum* half a Scruple, *spermaceti* one Drachm, Castor one Scruple. Make a Powder. Give it in warm Broth.

All hot volatil Salts correct this Acid, such as *Elixir uterinum*, *febrifug*. *Mynsicht*. because by their bitterness they correct a vitious Acid. Spirit of Sal Ammoniack mixt with Oyl of Oranges, or of Rue, with Amber, does Wonders. And so does essence of Castor, or *asa fetida*, or Myrrh, or this following;

Take of Water of Swallows with Castor two Ounces, Bawm three Ounces, *Spiritus salis Ammoniaci Succinatus* half a Drachm, volatil Spirit of Man's skull one Scruple, Syrup of Bawm fix Drachms. Mix them.

Liquor cornu cervi succinatus, also tincture of Elder Berries, and all volatil things, as we said, are proper in as much as they recal the exorbitant Spirits to the Womb; for example;

Take of Water of Bawm three Ounces, zedoary fix Drachms, *Spiritus salis ammoniaci rutaceus* one Scruple, Spirit of Harts-horn, tincture of Castor each half a Scruple, Syrup of Mint fix Drachms. Give it by spoonfuls.

Take of *aqua naphæ*, *carminativa* each two Ounces, *Spiritus cornu cervi tartarizatus*, tincture of Amber each half a Drachm, *asa fetida* twelve Grains, Syrup of Cinnamon five Drachms. Mix them.

Also *Spiritus urinosus salis Ammoniaci* given to half a Scruple, with essence of Castor is reckoned a most excellent Medicine in Fits of the Mother. Chalybeates also are of excellent use. And so the Spirit of Secundine is reckoned as a certain and specifick experiment in this Disease. The following balsam is an excellent Anti-hysterick;

Expose Soot to the cold Air, till you find a Viscous and liquid Balsam,

Balsam, which you must keep for use.

Antimoniates, especially essence of Antimony, easily takes off the Fits of the Mother. *Thomas Bartholinus* commends a Medicine made of a Stag's and Bull's Pizzle, cut out at a proper time, as a secret in Fits of the Mother and the Collick.

Near the time of their *Menses* poor Women are often miserably afflicted with Fits of the Mother. *Ettmuller* commends this following.

Take of *aqua hirundinum cum castoreo* one Ounce and an half, *Carminativa* one Ounce, Crab's Eyes prepared one Scruple, *antimonium diaphoreticum* half a Scruple, *sperma ceti* one Drachm, Syrup of Orange Pill half an Ounce. Mix them well.

Let the Patient take two or three spoonfuls of it now and then; for, according to my experience, the Fit is not only thereby eased, but the Flux of the *Menses* promoted. In this case one may bleed in the Foot. Also this following extract of *Crollius* is highly to be valued;

Take of extract of Castor, Saffron, Mugwort each half an Ounce, Salt of Mother of Pearl two Drachms, Oyl of *Angelica*, Aniseed, Amber each half a Drachm. Mix them. The Dose is a Scruple or two at the beginning of a Fit; or for Prevention, once in the beginning of every Month.

In the Fit sharp Clysters may be given of Uterine and Carminative things, in which about three Drachms of Salt of Mugwort may be put. But you must have a care of such as are enclined to swoon and are weak. Therefore the Patients must be asked, whether they are able to bear Purges or Clysters.

Here you must observe, that all Antiepilepticks are proper in this case, and that this Disease uses to be cured as an Epilepsie; nor must externals be neglected in the Fit. And this you must observe in general, that though the Symptoms seem to grow worse by some Medicine; yet you must not therefore judge, that the Medicine was improper. Externally, for raising of the Patient, stinking things must be held to the Nose, such as smoak of the warts of Horses Legs, Feathers of Partridge and other Birds, Tabaco, blue linen Cloth. But volatil Spirit of Sal Ammoniack surpasses all these, or this stinking one, that follows, of Amber;

Take of Amber, *asa fetida* each three Ounces, Sal Ammoniack one Pound, quick Lime, or Oyl of Tartar two Pounds. Destil them according to art, and keep them for use.

Asa fetida, Castor, Rue, and Caraway seed are Common, some commend a fume of *Bitumen* as a secret. Some Women can bear nothing but the smell of Vinegar or Wine. *Thomas Bartholine* makes a Girdle, which, he says, stops Fits of

of the Mother. A Sponge may be wet in a mixture of *Spiritus cornu cervi* and *salis ammoniaci aromaticus*, and so held to the Nose, all which things wonderfully appease the Plastick Spirit. Several spirituous things may be put into the Mouth, especially *aqua vitae*; the Nostrils may be anointed with rectified Oyl of Amber, or Spirit of Sal Ammoniack. Let the Temples be anoynted with Apoplectick Balsam, Rue, Amber, and other fragrant things. Sweet scented things, as Musk, Civet, Apoplectick Balsam, and such things must be applied to the Navil and the *Pudenda*: for they repel the Enemy, and comfort the Spirits. The Patient must rather sit than ly in the Fit, that the bowels may not press so on the Diaphragm. Blow Sneezing Powder into her Nose, or Tabaco Smoak, to raise her. Divers Liniments and Plaisters may be applied to the Navil. This following is reckoned one of the best;

Take of Gum *Galbanum*, *tacamahaca* each equal parts, Balsam of Peru one Drachm, Oyl of Amber, Castor, each one Scruple. Make a Plaster according to art. Or,

Take of *asa fetida*, *Galbanum*, Ammoniack each two Drachms, Treacle one Drachm, Oyl of Amber, Castor each five Grains. Mix them. Make a Plaster. Or,

Take of Gum *Galbanum* dissolved in Vinegar half an Ounce, extract of Castor two Drachms, Oyl of Spike, Amber each one Drachm. Mix them. Make a Plaster according to art.

Some commend Yarn boyled, and applied warm to the Womans Groin.

Thus much concerning the giving of Medicines, while the fit lasts; but out of the Fit this Disease requires another Method. Out of the Fit such things are proper as are fit to imbibe, precipitate and any way correct the pontick Acid. And we must have regard to the Womb, therefore there will be need of all those specifick Uterines, which were before recounted by *Sylvius*; to wit, all aromatick and volatil things, and all Precipitants. When the austere, pontick, and ostentines viscid Humor is corrected, it will be time to carry it off. For which purpose divers Purgatives are good mixt with Hystericks. The following Physick Wine is of no contemptible use;

Take of leaves of Wormwood, *Carduus benedictus*, Bawm, Spleen-wort, Wall Rue each half a handful, root of Zedoary, Eryngo, Burnet each half an Ounce, *Angelica* two Drachms, best Rhubarb three Drachms, leaves of *Senna* one Drachm, Seed of Sermountain, Fenil, Caraway, each two Drachms and an half, rind of Tamarisk, Ash, Orange each three Drachms, Crude Tartar half an Ounce. Shred them, and put them in a bag.

If any one love Pills, here follow some;

Take of *species diacymini* two Scruples, *asa fetida* twelve Grains, extract of Castor half a Scruple,

a Scruple, extract of Saffron five Grains, extract of Rhubarb, Refin of jalap each half a Scruple, destilled Oyl of Amber, tincture of Castor each six Drops. Mix them. Make Pills for several Doses. But you must be cautious how you Purge.

After these things divers Alterers may be given, especially Oyly Volatils, the *Sal volatile oleosum Sylvii*, or *Spiritus salis Ammoniaci aromaticus*; and the use of them may be continued for some time. Sulphureous Baths will be proper, and so will all Jovial, Martial, Saturnine, Cinnabarine, and all manner of precipitating Medicines; various Decoctions likewise of the Woods, and other Alkali Salts, Medicines of Myrrh, &c. are good. When, according to the Opinion of the Ancients, you have a Mind to hinder breeding of Seed, then venesection, which is not otherwise proper in this Disease, will be adviseable, and there may be given *agnus castus*, Camphore, Rue, *unguentum refrigerans Galeni*, &c. But you must have a care not to offend the Womb.

These things following are Empirical; *Johannes Arcularius* says *pr. tr. 6. p. 17. 9.* If any one every other Day before Supper, will take two Scruples of *Pilule de Artemisia*, she will be kept from Fits; and she can find nothing more effectual.

Tryphera magna half a Drachm, dried Chamomil one Scruple may be given fasting with Wine or Sugar.

Spiritus vitrioli Veneris (about three Drops) is good against

all Hysterick Diseases. *Rhodericus a Castro* gives a Drachm of Venice-Treacle.

Johannes Crato has this singular Medicine. He dries Walnuts, and beats them to Powder, and gives two Scruples of it, with a few Drops of Oyl of Amber.

Johannes Faber commends Salt of Vitriol, because it vomits, and promotes the Menstrua.

According to *Claudius Boerhaave*, *Sal Jovis* put into or spread upon the Navil is an excellent remedy.

Petrus Forestus says, one who perceived her Fit coming presently prevented it by holding root of Masterwort in her Mouth, and chewing it a little, so several Authors extol Garlick shred, and applied to the Navil.

Heurnius gives a Scruple of Flowers of Nutmeg in Wine, and blew Bottle Water, wherein the quantity of a Hazzle Nut of Camphore was burnt.

Fridericus Hofmannus dissolved Hens dung in white Wine, mixt it with some Cordial, and gave it often with great Success.

So *Simon Pauli* magnifies the leaves of *Thea*, applied hot to the Region of the Womb and to the Navil.

Quercetan brags, that only the Seed of Garden Parsnep dried and powdered, and about half a Drachm of it given in a little white Wine or Bawm Water is a peculiar and a specifick Medicine for Fits of the Wother.

I. D. *Rulandus* says, that Cow's Dung, or Deer's, or Sows Dung, given in hot Wine presently stops the Fits of the Mother. He also affirms, that linen Cloths dipt in Cows Urine or Dung, and applied warm to the Navil eases the Fits.

Schroder commends Oyl of *Galbanum* used either inwardly or outwardly.

Varignana says, the hair of the Patient burnt, and the Smoak of it received, does wonders.

CHAP.

C H A P. III.

Of the Defect, Imminution, and disorderly Flux of the Menfes with Pain.

§. I.

Women's Health wholly depends upon Nature's Law, in a convenient Motion and Measure of Blood to be voided by the Womb; so if that affair go right, generally all things are well: but all is out of order, when this evacuation of Blood preternaturally fails, or is suppressed, or is only abated. For this Ebbing and Flowing of the Blood gives a Testimony of the Constitution of the whole Body. If it stop or do but *abate*, it makes the Body pale: Such therefore as the *Menstrua* are, so fares it with a Woman, as to her health. The obstruction of them is a common Calamity, incident to young Women above all others, and is the foundation of other Maladies. Ordinarily they begin to come at thirteen or fourteen years of Age, sometimes sooner, sometimes later. So we knew a Girl, that had her *Menfes* at five years Old. They cease about forty five or fifty. At these Ages therefore you try but in vain to bring them. Nor must you procure them in Women with Child (in whom the superfluous Blood turns to nourishment for the

Child) nor in such as give Suck, or are Sick of any grievous Disease.

§. 2.

When the Flux of the *Menfes* quite ceases, it is called *Suppression*; when they Flow, but not sufficiently and the Patients are Sick, it is called *Imminution*. And though this Flux, when it first comes in young Women, does not exactly observe every Month (for some are Purged but once in three Months) till in process of time there be greater store of Blood; yet then it observes the ordinary time.

Here a weighty Question occurs, What may be the Cause, why this Flux keeps so exact a Period? Here Authors are at odds one with another. Most of them ascribe it to the Moon; because according to the difference of its *Phases* it has a great influence in altering the Humors of Humane Bodies. Yea some attribute so much to the Moon, that in all Diseases in a manner, they look to the *Phases* of the Moon, but oftentimes by tarrying for a more happy aspect of the Moon, they suffer their Patient to die

die. Now though the Moon have a great Power in altering the Humors of Humane Bodies; yet this can by no means be granted; since the disposition also of every subject Body, and of the Plastick Spirit, which is altogether peculiar, may do much, and especially the course of Life, as experience and Womens own Confession testifie. And this verse does not always hold true;

*Luna vetus vetulas, juvenes nova
luna repurgat.*

Regnerus de Graf thinks, that the Cause is some definite Motions of Nature, not yet discovered. But he explains one obscurity by another. In our Opinion the Flux is Monthly, because the Blood Flows abundantly to the Vessels of the Womb, which nature has made many in number and large for nutrition of the Child, and tarrying there it pricks the little Arteries, and so by the animal faculty is discharged. And when abundance of Blood is sent thither to be expelled, it cannot chuse, but in process of time it must be gathered in such store as to regurgitate into those Vessels, by which it came; for when once way is made, the Blood that is gathered will go that way again.

Definition.

VVE say therefore that a Suppression of the *Menses* is a total preternatural deprivation of the Flux of the Menstruous Blood, which should by right be once in a Month, arising from some fault either of the Blood,

or the Vessels, or from a preternatural organical Constitution of the Womb.

Diminution, is, when the Menstrua Flow not so much as they should.

§. 3.

THE Subject of these Diseases by common consent of the Ancients is reckoned, the Womb. Some take the Stomach for the Subject, others the Liver, some the Spleen, a few the Kidneys. But it is certain, that the Blood is the causal Subject, or the Proximate and Primary object: for if the Blood be tenacious, thick, cold and coagulated, then the *Menses* stop, because the Blood cannot pass those Vessels, and therefore must of necessity either seek a Passage by some other Place, or must be retained, and so produce this Suppression.

As to the other subject of Inhesion, most properly so called, it is the Vessels in the Womb, in the *Vagina*, or Neck of the Womb, that are obstructed, which especially are the lower branches of the Hypogastrick Artery, its Veins not excepted: for by Anatomy it is now evident, that the Hypogastrick Vessels are not carried to the Womb it self, but to its Neck on each side; And it is proved by this, because the *Menses* come after Women are with child. So I knew an honest Woman, who was very Plethorick, and had her *Menses* three Months always after she was with Child. There is a History of *Guillimæus in tr. de partu felici c. 12.* concerning a Woman, who eight days before her travail voided four or five Pints of Water, not by the Womb,

Womb, but by the Vessels of the *vagina uteri*.

Now we have given you the subject of these Diseases, it remains that we give you the Symptoms; and the Disease is easie, but the Causes are difficult, to be known. If therefore one would know, whether the Mass of Blood, or the Vessels of the Womb be affected, he must observe, whether Maids or Women at certain times have any Symptoms, that show the tendency of the Blood to the uterine Vessels; For instance, whether they feel any Pain in their Loins, Dulness in the whole Body, Swelling in their Belly, loss of Appetite and Loathing, Flushes of Heat and Cold, difficulty of Breathing, a sense of tension about the Genitals and the *Pubes*, Throbbings in divers Parts of the Body, in the *Hypochondria* and Limbs, rumbling in the Belly, Tendency of the Blood another way extraordinary, as by bleeding at the Nose, Eyes, or Lungs? At this present I have a Maid nineteen years of Age, under Cure, who never had her *Menses* by the Womb, but always by her Ears. Some every Month sweat Blood. If several, though not all, of these Signs be present, it must be concluded, that the Vessels of the Womb are either obstructed or too Strait and Small, and the Cure must be directed thither. It comes through some fault in the Blood, when Maids and Women, at the due time, find no sense of Tension or Pulsation about their Genitals and Loins, nor any of the forementioned Symptoms denoting it to be in the Genital Parts. The Blood is shown to be thick and Viscid, by a Cooling, Moist, and Inerassating Diet, preceding,

a Slow Pulse, slowness in Motion, Transpiration hindred, Paleness and Chilness of the whole Body. Phlegmatick humours are shown by frigidity in the Genital Parts, excretion of a Pituitous and Viscid Humor by them, a little, rare and weak Pulse, Sleepiness, &c. There are several other Signs, that show the Disease is present; but without doubt the Patients own Confession is the best and the infallible Sign. You may be assured of it, if Patients complain of a weariness all over their Body, of racking Pains about the Loins, if their Face be Livid or White, if they breath short, especially when they go up a Pair of Stairs, if their Eyes swell, if they be Pensive, and Lazy; sometimes when they have lost their Appetite they vomit and swoon. In a Diminution all things are more remiss and fewer in Number.

§. 4. Cause.

NOW we proceed strictly to inquire into the Causes; for when the Cause is once known and removed, the Disease it self may be known and removed. The *Galens* in the stoppage of the *Menses* blame a cold and dry intemperature of the Womb, an Inflammation or Scirrhus, or Compression of it by the parts adjoyning, or by a thick *Omentum*; they blame the thickness of the Womb, Ulcers and Scars left by them, or by tearing the *coryedones* in violent abortion; they say also the Vessels may be obstructed by Cold and Gross Humors. And Blood either too much or too little may occasion it.

Among external Causes they reckon a cold and dry Air, going into cold Water, or tarrying too long there, especially when the *Menses* are at hand or actually present, Meat either excessive in quantity, or too Cold and Astringent, abuse of Spices, violent Exercise, too much Watching, Disturbance of Mind, &c.

§. 5.

PAracelsus in *param. l. 4. de origine morb. matricis*, and in several other places, talks much of the Nature and Office of the Womb; namely that it is a peculiar Microcosm in Man; yea, and like Man, it comprehends all the Creatures of the whole World in it self; it has proper Elements and Aliments, by which it is nourished, and the properties of Tartar; therefore he blames divers Tartareous Feculences lodged in the Womb.

§. 6.

Hemont says, the Menstruous Blood is separated by the hand of the *Archæus*, and so is cast out by nature: He says, disordered *Menstrua* discolour young Women.

§. 7.

Sylvius says, the cause of the stoppage of the *Menses* lies either in the Womb it self, or in the Vessels of the Womb: And he holds, that this evacuation does not proceed, when the passages or Vessels designed for this evacuation, are not open, when the Blood is not carried to the cavity of the Womb,

nor to them, or when these Vessels are stuffed with Viscid and Glutinous Phlegm.

For the remote Cause, he blames thick and melancholick Blood, the pensive Mind of young Women, their sedentary Life, long Sleeping, cold Food, a cold, thick, cloudy and moist Air. He says also, that at the time of Pubescence there is a natural apertion of these Vessels (which effect he ascribes to bilious Humors predominating in the Body at that time) and he distinguishes according to three degrees of Age. He attributes therefore the stoppage of the *Menses* to Phlegm and Phlegmatick Blood, which by its glutinosity stops the passages. I question not but the closing of the Womb is often the Cause of this Disease.

§. 8.

We distinguish the Causes of this Disease into Proximate and Remote. The Proximate in regard of their twofold subject are twofold. The first in respect of the Blood is its excessive thickness and viscosity, which invert the volatill temper of the Mass of Blood, hinder its Fluidity and Fermentation, render it unfit for Motion, hinder the breeding of Spirits, and obnubilate the Plaitick Spirit; yet this Flux is often hindred by the Vessels either not being open enough, or totally obstructed. And the constitution of the Vessels is twofold, either so originally, or grown so in tract of time. Sometimes they are naturally so strait, that though the Blood would go that way; yet by reason of their smallness it cannot pass, whereupon it seeks a passage by some other inconvenient

inconvenient ways, to wit, by the Hemorrhoids, Nose, Eyes, Teeth, Ears, Lungs, or Sweat, as we knew an instance. In tract of time this obstruction of the Vessels is made by a certain Viscid and Mucilaginous Matter, which by degrees obstructs these Genital Vessels, and hinders that Flux.

These Vessels are stoppt sometimes by thick Pus, sometimes by Worms and Stones; or they are compressed by the Omentum, or too much Fat, by the Bladder, or the *intestinum rectum*, and such other parts, that are Swelled or out of their places, and by any Swelling of the Womb it self.

Among the remote Causes we reckon a weak Stomach, and the non-natural things, as contributors to it; such as a cold Air, cooling of the Hands or Feet by it, dipping them in cold Water, or sitting on a cold Stone, Food, that is Acid, Austere, Gross, Terrene, Watry, Phlegmatick and Viscid, or endued with an Astringent Quality. Cooling, Incrassating and Astringent Medicines, unseasonable or too much Sleep, an idle Life, Passions of the Mind, Excretions or Purgations, either increased, diminished or omitted; Swellings, or abscesses after abortion, difficult Travel, a Fall, Contusion, and Medicines used amiss.

§. 9. *Prognostick.*

THE obstruction of the Menfes is generally a Chronical Evil; and if it be not timely cured, altho at first it may not seem very dangerous, yet in progress of time it may prove the Cause of divers grievous Diseases, namely of the

Dropie, *leucophlegmatia*, Consumption, Inflammations, Ulcers, Sublocations, and other very dangerous Diseases. In Maids, this Disease does produce in some the Green Sickneſs, in others Palpitation of the Heart, in some Barrenneſs, in some a *Pica*, and in some a Dysentery. But this Disease is not so dangerous, when it arises, from external Causes, and in Summer or Spring time, as in Winter and Autumn: For the Blood sometimes destroys it self; and then either a Cachexy, Dropie or Consumption arises; this corrupt Blood acts most cruelly upon the Lungs, and either by eating or ulcerating, it opens their Vessels, and then degenerates into a Consumption.

§. 10. *Cure.*

NOW we will proceed to the Cure; and first according to the Galenists, who say, the Cure of this Disease must be varied, according to the variety of Causes. If therefore the Disease arise from excessive quantity of Blood, they abate it by Phlebotomy either in the Arm or Foot; as there is occasion, they commend Frictions, Ligatures and Cupping, with and without Scarification; then they order Semicupes made of Emollient and Laxative Uterines; but they highly magnifie Natural, Sulphureous and Bituminous Baths both internally and externally, especially when the stoppage of the Menfes proceeds from a preposterous Motion of the Blood, and it is voided by the Nose or Mouth.

These things premised, they commend divers both Internal and External Aperients, and all uterine

Specificks, of which they have an infinite number.

§. 11.

Paracelsus highly commends the Specifick of an Ox's Spleen, reduced to a Magistery or Quintessence for provoking the *Menses*; he also magnifies *essentia solis*, which he calls *resina solis*. His Disciples magnifie the *Scoria* of *Regulus* of Antimony, and a tincture made thereof, *Arcanum Antimonii*, *Sal Philosophorum*, Oyl of Amber, Vitriol, and a thousand other things.

§. 12.

According to Helmont's Mind, the Medicines for the stopt *Menses* are the volatil Tincture of Coral, *sal chalybis*, and such like volatil things, got out of Specificks.

§. 13.

Sylbius, for a Tough and Viscid Humor, commends both Acids and Aromaticks, abounding with a lixivial Salt as well Fixt as Volatil, and Fixt and Volatil Salts themselves. He prefers Aromaticks above all things, whether they be bitter, or not; namely root of *Aristolochia rotunda*, *angelica*, Mather, Smallage, Fenil, Parsly, Eryngo, Lovage, *Iris* homebred and Florentine, Burnet, Schœnanth, Spikenard, &c. Leaves of Penny-Royal, Savine, Sage, Dittany, Majoran, Garden Rue, Wild Majoran, Mountain Calamint, Mugwort. Flowers of Rosemary, Wall-Flowers, Spikenard, Chamomil,

Saffron, &c. Berries of Juniper, and Bays. Most of the Carminative Seeds. Gum *Galbanum*, *Sagapenum*, Myrrh, &c. He commends the following Physick Wine;

Take of root of Elecampane two Drachms, Galangal, Turmeric each one Drachm, leaves of Penny-royal, Majoran, Savin, red Mugwort each half a handful, Bay berries, seed of *Daucus*, Lovage each two Drachms, quilled Cinnamon three Drachms, Mace one Drachm. When they are cut and bruised, put them in a Bag. Put it in a Jug, and Pour a Quart of Wine to it. Let the Patient drink a glass at Dinner and Supper.

They that had rather have Pills, may take these following;

Take of Gum *Sagapenum* prepared with Vinegar half a Drachm, prepared Steel, white Amber prepared each one Scruple, red Myrrh, the best Castor each fifteen Grains, oriental Saffron half a Scruple, *Venice Borax* one Scruple, Oyl of Cloves six Drops. Mix them. Make forty Pills. Let the Patient take five every day before she go to Bed.

He extols all Volatil and Oily Salts, because they do their work kindly and successfully, and the Patient may conveniently take them at any time in Broth. Above all things he commends Spirit of Sal Ammoniack, about five Drops or more of it at a time. He says also, that all Sudorificks and Diureticks are proper here; in adult People

People he Bleeds, and rather in the Arm than the Foot. He also orders the external application of Aromatick Oyntments, such as *Unguentum Martiatum*, Oyl of Nard, Chamomil, Fomentations, Fumes, Steems, and the like.

In the Imminution of them he orders the use of the abovesaid Medicines; but in a less Dose.

§. 14.

NOW we will go to our own Cure, as it is founded on curative Indications. In the first place therefore let the first ways be rectified, then let the Mass of Blood, its Crudity and Thickness be corrected; if there be any obstruction of the Vessels, let it be removed, by taking away, dissolving, and inciding the viscidty of the Humors, that obstructs the Vessels, by exciting the Plastick Spirit, to which Specificks, and things that provoke the *Menfes* may be added.

That we may satisfie the first intention, it is requisite that the Stomach, which is full of acid Crudities and Humors, should be cleared; to this end Purgatives are good, which dissolve the Viscidity in the first ways, and remove obstructions of the Vessels: for instance;

Take of leaves of Penny-royal, Baum, Mugwort, Savine each half an handful, Vervein two Pugils, leaves of *Senna* one Ounce, root of Rhubarb three Drachms, *asarum* two Drachms, *costus* (which is a great provocative of the *Menfes*) five Drachms, seeds of Anise, Fenil each two Drachms, Filings of Steel one Ounce, Schoenanth one

Drachm, Bayberries No. *vj*, root of Zedoary, *calamus aromaticus* each half a Drachm. When they are shred and bruised, put them in a Bag, and pour some old Rhenish Wine to them. Let the Patient take three Ounces once or twice a day.

Or if a Powder be more acceptable;

Take of Powder of root of Jalap half a Scruple, *crocus Martis*, *saccharum aperitivum* each eight Grains, sulphurated Scammony six Grains, destilled Oyl of Cinnamon one Drop. Mix them for once taking. It must be given at the usual time, when the *Menfes* used to come naturally. Or,

Take of Water of Mugwort one Ounce, extract of black Hellebore six Grains, Steel half a Scruple, Scammony roasted four Grains, Syrup of Cinnamon three Drachms. Mix and give it. Or in form of Pills;

Take of *Pilula de hiera cum agarico* one Drachm, Vitriol of Mars moderately calcined one Scruple, Trochiscs of *Albandal* half a Scruple, extract of Saffron six Grains, Oyl of Penny-royal three Drops. Mix them and make Pills. The Dose is from nine Grains to fifteen. Or,

Take of Gum Ammoniack, *Sagapenum* each half a Scruple, Resin of Jalap seven Grains, Magistery of Amber four Grains, Volatil Salt of the same six Grains, destilled Oyl of Myrrh three
O o o 3 Drops.

Drops. Mix them. Make eleven Pills.

If there be evident Signs, that a viscus Load lies in the Stomach, a Vomit must be given, especially if there be Co-indicants, and the Patient be easie to vomit, and it be Spring or Summer time.

After Purging, she may be bled in the Foot. Clysters made of proper ingredients are suitable to tender Constitutions.

Then, for dissolving the Viscidity of the Blood, Salts both Fixt and Volatil are proper; such as a Decoction of the Woods, and opening Roots, with proper Herbs. In this Case I commend the constant use of Volatil Salts, adding Oyly things. Or;

Take of Water of Penny-royal, Mugwort, Rosemary each two Ounces, *aqua vite mulierum* fix Drachms, Spirit of Sal Ammoniack thirty Drops, Diaphoretick Antimony, prepared Crab's Eyes each half a Drachm, Oyl of Savine ten Drops, Syrup of Orange Peel one Ounce. Mix them.

Above all for a secret in these Cases, I commend Spirit of Sal Ammoniack aromatized, with Oyl of Orange Peel, Savine, Cinnamon, Penny royal or Mace. Excepting this, there is not a quicker Medicine in this Case, than essence of Myrrh, made with the vinous Spirit of Sal Ammoniack; or, a more compound Medicine, *elixir proprietatis volatile*, concerning which I must acknowledge, I have ever found it successful. Myrrhated, succinated and Martial Medicines

often do the business, especially Iron Spaw Waters. Therefore Filings of Steel prepared may be put in the ordinary Drink;

Take of Trochisces of Myrrh half a Drachm, Venice Borax twelve Grains, the best Castor, Alexandrian Mummy each half a Scruple, Oyl of Savine eight Grains. Mix them. Make a Powder. Divide it into five Doses. Or,

Take of Filings of Steel, Powder of Nutmeg, Cloves, the best Saffron each one Scruple, Oyl of Caraway six Drops. Mix them. Divide it into four equal parts. Or,

Take of Humane Secundine prepared, Castor prepared, Oyl of Amber six Grains. Mix them for three Doses, half a Scruple in each.

The Tincture also or Spirit of Humane Secundine, with a few drops of Tincture of Aloes and Spirit of Sal Ammoniack given in some convenient liquor is wonderfully commended in this case. Decoctions of Savine, Motherwort, Dittany and such things are good.

The following Hæmagogue Water is approved by much experience;

Take of the root of both the *Aristolochia*, Mather, *cassia lignea*, each half an Ounce, leaves of Savine, Penny-Royal, Bayes, Vervein, Flowers of Marigold, Wall-Flower each half an handful, *crocus Martis aperiens* two Drachms, *species diarrhodon Abbat* one Drachm, Trochisces of Myrrh

Myrrh a Drachm and an half, *fecula bryoniae* half a Drachm, Saffron of *Austria* one Drachm, *Sal Sulphuris* five Drachms, Salt of Mugwort one Scruple. Shred and infuse them eight days in Water of Penny-royal, Mercury each half a Pint, Sack one Pint. Afterwards destil them according to Art.

I have seen several young Women cured by it alone. Caltor and Aloetick Medicines are often sufficient. In this Case *elixir uterinum Crollii*, *elixir proprietatis*, &c. are proper. And so *Spiritus vitrioli Martis* is a singular Specifick in this. The following Decoction of an Ox's Spleen is highly set by;

Take the Spleen of an Ox, of leaves of Baum, Mercury, Penny-royal, Nep each one handful, Flowers of Marigold, Wall-Flower each two Pugils, root of *Aristolochia rotunda*, Bryony each one Ounce, Bay-berries three Drachms, *cassia lignea* two Ounces. Infuse them in a sufficient quantity of Baum, Mugwort and Penny-royal water, let them infuse a while in *balneo Mariae*, afterwards boyl them in *vase clauso duplicato*. Let the Colature be sweetned with Syrup of Mugwort and Cinnamon each a like quantity, what is sufficient. If you have a Mind to sharpen it, you may do it with *tinctura Martis Zwelferi*.

When the *Menses* are stopt by external Cold, and a clotting of the Blood arising from thence, it will be proper to give Antimony with Caltor, adding some *sperma ceti*,

especially if a Pleurisy be joynd therewithal, as sometimes I have known it.

The following Pills are not of contemptible use.

Take of Aloes one Ounce, resinous red Myrrh, extract of Gentian, *Aristolochia*, Dittany, Saffron each half an Ounce, Mather, Mithridate each one Drachm. Mix them up with Syrup of Mugwort into Pills. The Dose is five, seven, or more, to be taken every day, Morning and Afternoon in warm Beer.

All things likewise that imbibe an Acid are proper in this Case: for when the Acid is imbibed, and changed into a third Salt, the Peccant matter may properly be evacuated by the Urinary or other passages: for instance;

Take of red Coral prepared, Crabs Eyes prepared each half a Scruple, *crocus Martis aperitivus* five Grains. Mix and give it.

But if the Blood flow some other extraordinary ways, then it must be averted, and the obstructed Vessels of the Womb must be opened; which you may do by Volatil Medicines, Baths, and such like means.

In General therefore, as we said before, all Salts are proper, Fixt as well as Volatil; yet you must take this Caution, That Volatil Salts and such things must be given, when the *Menses* are present, but fixt Salts, made out of appropriate Herbs, must be given before their coming. These are Specificks, Mugwort, Penny-royal,

Wall Flowers, root of *Aristolochia rotunda*, Cinnamon, Myrrh, and Trochiscs of it, Castor, Saffron, Borax: for instance;

Take of Borax one Scruple, quilled Cinnamon powdered half a Scruple. Mix them.

Savine and its Oyl deserve great commendations. The following Volatil Spirits are of great use, to wit, *Spiritus Salis Ammoniaci aromatizatus*, Spirit of Harts-horn, Soot, Secundine, *liquor cornu cervi succinatus*, *tinctura salutis*, *Castorei*, *elixir proprietatis*, especially with a Volatil *Akali*, *essentia aa Menses aurea* of our description.

This must be observed in general, that there is no sort of remedy, that has the same virtue in all People. Wherefore unless the virtue in all Medicines be duly observed, and the passive subject be compared with the active object, we shall not always obtain our desired end. In exceeding pertinacious Obstructions of the *Menses* the stomachick Salt, made of the dead Stone of Spirit of Sal Ammoniack with Salt of Tartar may be conveniently used with ones Meat.

If there be an *Anasarca*, which is apt to attend this Disease, then this following will be proper;

Take of root of *Asarum*, Mather each one Ounce, leaves of Savine one handful, Juniper-Berries two Drachms. Boyl them in a sufficient quantity of Common-Water, adding towards the latter end, of Cinnamon two Drachms, Cardamom one Drachm. Add to the Colature of Spirit of Earth-

worms three Drachms. Mix them.

Let the Drink be Elecampane Beer or Wine. In this case Purgatives mixt with Hæmagogues will be proper. The following Physick-Ale or Wine will be good;

Take of root of *Angelica*, Lovage each half an Ounce, Galangal two Drachms, leaves of Rosemary, Motherwort, leaves of Savine each one handful, Bay-Berries one Ounce, Cinnamon three Drachms, Saffron one Drachm, Salt of Tartar two Drachms. Mix them for a bag.

A Decoction of Rosemary, and Wall-Flowers is very good.

If there be the Green-Sickness and a Cachexy, you may joyn Anticachecticks with Uterines;

Take of *pulvis cachecticus Hartmanni* half an Ounce, Goose Dung two Drachms. Mix them, for several Doses.

In difficulty of the *Menses* this following is proper;

Take of Water of Penny-royal two Ounces, Mugwort half an Ounce, essence of Castor a Drachm and an half, Spirit of Sal Ammoniack half a Drachm, destilled Oyl of Aniseed three Drops, Syrup of Mugwort six Drachms. Mix them for once taking. Or,

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Take of Water of Fenil, Pennyroyal each one Ounce, *aqua carminativa* two Drachms, tincture of Tartar one Drachm, *liquor cornu cervi succinatus* one Scruple, Syrup of Mugwort half an Ounce. Mix them. Or give fifteen Drops of essence of Saffron.

If there be Pain and Convulsions, give this following;

Take of *elixir proprietatis Paracelsi*, tincture of *Opium* each one Drachm. Mix them. Or, Take of Essence of an Ox's Spleen, Mugwort, Baum, *Mars liquatus* each two Drachms, Savine a Drachm and an half, Saffron one Drachm. Mix them. The Dose from fifty to threescore Grains.

Externals joyned with these Internals are extolled, as having singular effect. Excellent Externals may be made of the *Scorie* of *Regulus* of Antimony: for instance;

Take of the *Scorie* of *Regulus* of Antimony four Ounces. Boyl them in a sufficient quantity of a *lixivium* made of Mugwort or other Specifick Herbs, to the extraction of the redness. To fix Ounces of the Colature add of Sack two Ounces. Mix them. Let two Ounces of this Liquor be poured upon red hot Stones or Iron, and let Women in desperate Cases, receive the Fume by a Funnel.

Fumes may also be made of Savine, Coloquintida, Myrrh, *Styrax*; and such like things.

Glauber's instrument is deservedly extolled, which by means of a Spunge communicates volatil Salts, especially Sal Ammoniack, joyned with any Alkalifate, to the Womb of a Married Woman. They that have not this instrument, may take a Viol, and pour some volatil Spirit into it: for instance, *Spiritus Salis Ammoniaci volatilis* & *aromatizatus*, and putting a linen Cloth about the Mouth of the Viol, they may apply it to the *sinus pudoris*, the Body of the Viol may rest upon Coals: by thus doing the viscid *Mucus* is dissolved, and the Plastick Spirit is excited.

Baths also, and Fomentations, may be made of Uterine Herbs, for the same purpose;

Take of leaves of Mugwort, Pennyroyal, Motherwort, Mercury each two handfuls, Rosemary one handful, Wall-Flowers, and Flowers of Mallows each half an handful, Bay-Berries one Ounce and an half, root of Bryony two Ounces, *aristolochia rotunda*, Mather each one Ounce. Cut and bruise them Grossly, and boyl them for a Bath. But natural, sulphureous and bituminous Baths, are to be preferred before Artificial ones.

If you desire a Liniment, here follows one;

Take of Oyl of white Lilies, Wall-Flowers each three Drachms, *Diacolocynthidos* one Drachm and an half. Mix them.

So likewise Pessaries may be applied in obstructions of the *Menses*. *Mynsicht's* are the best. *Angelus Sala*

Sala wonderfully commends black Hellebore, but because it must be kept a long time, it is to be feared an exulceration may arise. So this following is accounted as a certain experiment;

Take of the Powder of Leaves of spotted Arsmart, gathered when the Sun is in *Leo*, and dried in the Shade half a Drachm, root of black Hellebore prepared one Scruple, with a sufficient quantity of Gum Tragacanth dissolved in white Wine make a Pessary.

But the obstruction, that has its rise from peculiar Diseases of the Womb or its Vessels, or from Diseases of the ways, the falling down of the Womb, imperforation, and other such like things, its Cure must be sought for somewhere else; and Menagogues must ever be added to these Medicines.

In the Imminution of the *Menses* the same Medicines in a manner will do, but in a less Dose. In discolouring of the *Menses*, by Putrefaction, *elixir proprietatis*, with *elixir uterinum Crollii* is proper. Also essence of Mugwort, Baum, &c. is good. *Mercurius dulcis* is a generous Medicine in this Case;

Take of essence of Baum three Drachms, *elixir proprietatis* half an Ounce. Mix them. The Dose is between Fifty and Threescore Drops. Or the following bag;

Take of leaves of *Scordium*, Baum, lesser Centaury each one handful, root of Bryony one Ounce, black Hellebore prepared half an Ounce, leaves of *Senna* nine

Drachms and an half, large Cloves one Drachm, *Sal uterinum* one Drachm. Make a bag for three Pints of Wine.

These things premised, Sudorifics must not be neglected.

In a disorderly Flux of the *Menses* all the forementioned things in a manner are proper, especially things that purify the Blood and correct its Acrimony and Viscidity; such as artificial Spaw's according to *Kesler's* and *Schroder's* Opinion; but natural Martial ones do far exceed them.

§. 15.

Now we will see a few Empirical Medicines. *Johannes Agricola* commends the following Pills as a singular secret in the Suppression of the *Menses*;

Take of extract of Bay-berries, Savine, Centaury the less, Mari-golds each one Ounce, Salt of Baum, Savine each half an Ounce, Oyl of Savine half an Ounce, true borax, Saffron each one Ounce and an half. Make a Mass with Oyl of Cinnamon. Give a Scruple of it Morning and Evening.

He also extols white Flowers of Sulphur.

Thomas Bartholinus commends the Decoction of Pomegranate Pills; *Borellus*, Horehound; *Forestus*, *semen nigellæ*; *Glauberus*, concentrated Spirit of Urine; *Johannes Ferdinandus*, ashes of Pigeon's Dung calcined with half a Scruple of Powder of Saffron.

disorderly Flux of the Menfes with Pain. 219

Jacobus Lusitanus magnifies Iron Oar; of which we also use the tincture.

Antonius Mizaldus commends the drinking of Rue, boyled in Wine with Hyfop and Anife.

Simon Paulli cries up a Decoction of Motherwort and Chamomil, with a little Mugwort.

Prævotius values an Onion stuck round with the jaggs of black Hellebore roots, caſting away the root, and eating the Onion ſeveral times Faſting, when the *Menſes* are near. He has alſo for a ſecret, Amber, and Garden Daiſie boyled in white Wine.

Ronſæus in this Caſe highly commends deſtilled Oyl of Sermountain.

Johannes Schroderus cries up the following Decoction for an *Arcanum* in provoking the *Menſes*;

Take of ſeed of Millet, Anife, Miſletoe of the Oak each three Drachms, root of dittany one Drachm, Saffron one Scruple. Steep them a little in white Wine, and then boyl them gently. The Doſe four Ounces.

Timæus a Guldenglee, when other remedies will do no good, commends applications to the Navil of Trochiſces of *Albandal*, and he commends a fume of Savine and Coloquintida.

Benedictus Faventinus affirms, that the following Pill put into the Womb does good, upon his experience;

Take of Venice-Treacle one Drachm, Powder of Savine one Scruple. Mix them.

C H A P. IV.

Of the excessive Flux of the Menses, and the Whites.

§. I.

THE immoderate Flux of the *Menses* is of two sorts.

1. When the *Menses* Flow in an excessive quantity and too long.
2. When they return sooner than they should. It is generally described to be, *An excretion of too much Blood by the Womb, caused by the opening of the Vessels thereof.*

The Whites are called in Latin *Fluor Muliebris, Fluxus albus, Menstrua. Alba, Gonorrhæa non virulenta, coryza uteri, &c.* for a *Gonorrhæa* does not differ much from the Whites, and sometimes they are complicated. It is commonly described to be *a plentiful and frequent excretion of a Phlegmatick, thick Humor, sometimes White, sometimes of another Colour, without Pain, by the Womb: Or rather, an excretion of an abounding inguinal humor by the vaginal Glands of the Womb.*

Some are mistaken in calling this Disease the *Menstrua alba*: for
1. It does not come every Month, neither sooner nor later, as the *Menstrua* do. 2. The Whites last

the whole time from their first coming till they quite cease. 3. The Whites are observed to come before and after the time of the *Menstrua*. For no Age, the first excepted, (and yet I have a Girl not ten years Old now under my Cure for this Disease) is exempt from this Malady. All which things considered show, that the Whites have nothing to do with the *Menstrua*; though just before the *Menses* come, they are often in most abundance, by reason much of that Matter is at that time gathered about the cervical Glands of the Womb.

§. 2. Difference.

THE Whites differ according to the violence of the Symptoms. They continue sometimes a Month, or Months, yea, or years, without any great harm, or grievous Symptoms. Hence the great *Platerus* calls them Moderate and Immoderate. And the same may be said of the excessive Flux of the *Menses*.

§. 3. Signs

§. 3. Signs of excessive Menses.

AND as these Diseases are easily seen, so their Causes may as easily be discerned by their Signs. For a *Plethora* has its Signs. And as for the Bloods Thinness and Acrimony, and exorbitant Motion, the Blood voided, Pain or no Pain in voiding of it, heat and the like, do show them. An *Anastomosis* is preceded by Causes apt to produce it, excessive Heat, Venery, hard Travail, Miscarriage, a previous Suppression of the *Menses*, &c. A *Diuresis* by Pain and Heat about the Neck of the Womb, Pain in Voiding the Blood, and alteration in its Colour, by the *juvantia* and *nocentia*, excoriation or inflammation in the Parts, by which the Blood passes. Such Patients are afflicted with tire-someness, languishing all over their Body, Paleness of Face, loss of Appetite, Heat, Thirst, Pain in their Loins, Swellings in their Feet, and a thousand such things.

§. 4. Signs of the Whites.

THE Whites also need no Signs, as being easy to be known by the relation of the Patient and By-standers. They may partly be known by the Urine, in which one may observe a Sediment Whiter and Cruder, than ordinary, Phlegmatick and without Smell, or one may see a sort of Phlegmatick and White Streaks: And partly by the concomitant Symptoms, Pain

in the Back and about the Belly, Palpitation of the Heart, Atrophy, Dulness in the whole Body, and loss of Colour. The Whites indeed, when *Moderate*, are attended with no grievous Symptoms; but *Immoderate*, both as to the quantity of matter, and the pertinacy of both Causes are attended. 1. With loss of Strength. 2. A Cachexy. 3. A Numbness in the Hands and Feet, and Barenness. And the excrementitious Humors are sometimes White, sometimes Pituitous like Whey, sometimes Pale or Yellow, sometimes Green, according to the diversity of the serous Liquor.

§. 5. Cause of the excessive Menses.

ACCORDING to the *Galenists*, the Causes of an immoderate Flux of the *Menses* are an *Anastomosis*, *Diapedesis*, *Diuresis*, and *Diabrosis*, which are caused by the excessive quantity, Heat, Thinness, or Acrimony of the Blood, by a Blow, a Fall, or a Wound.

§. 6. Cause of the Whites.

IN the Whites they say, the Brain, Stomach, Liver, Spleen, and Mesentery, send their excrements to the Womb, as to the weaker Part, and therefore most apt for reception: nor do they doubt, but excrementitious Humors may be bred in the Womb it self, through the weakness either of the retentive or concoctive Faculty. Therefore they blame the Intemperature and weakness of the Womb, which is often contracted

contracted while they are with Child, from their Travail, Abortion, Contulion, Inflammation, Abscess, or Exulceration.

§. 7.

PAracelsus l. 11. §. de dolorib. *matricis*, makes the Diseases of the Womb, to be of a quite different Nature.

§. 1.

HE says, "The breeding of Diseases of the Womb, is not in the Womb, nor from it. Because every Part, that depends upon others, receives detriment from other Parts. For the Diseases of the Womb are Retention and Superfluity. According to him, the Womb receives its nutriment from all the Parts once every four Weeks: then it casts out its excrements, and then Women feel Pains in their Back and Head, and Compression at the Pit of their Stomach. The Retention is not in the Womb, but from all the Parts of the Body. He Proceeds §. 2. "For the *Menstruum* in the Womb is not the *Menstruum*, but the Excrement of the *Menstruum*. And therefore tr. 2. de gen. hom. he calls it *Menstrua ejection* and *stercus matricis*. "Then there ensues a conjunction of these (since the *Menstruum* comes from all the Parts, and some Parts are Morbid) Destruction, Alteration, Conclusion, Mixture of a Good and Bad thing, discolouring and the like. When a Woman finds Pain, there is Oppilation and an excessive Flux.

§. 8. Cause of the excessive Menstrua.

ACcording to Sydenham his judgment, the *Menstrua* exceed through some fault either in the Blood, the Womb or its Vessels. Through the fault of the Blood, as often as it is too thin or too sharp, especially at the time of the *Menstrua*. And the Blood is made so by the Heat of the Air, Sun, Fire, Bath, &c. also by too Spirituous and Aromatick Food, by the Passions of the Mind, as Anger; also by excessive Motion of the Body, Running, Dancing, Rubbing, &c. by over long Watching, by the usual evacuations of Bile, being either omitted or quite stopt. He says, it is through some fault in the Womb, or its Vessels, when they are either too Lax, or Moist, through abuse of watry things, eating too much horary Fruit, Peaches, Grapes, &c. especially when the *Menfes* are at hand, because at that time all about the Womb is open.

§. 9. Cause of the Whites.

AS for the Cause of the Whites, when Moderate, and often continuing a long time without any considerable damage, he makes the efficient Cause to be some Acid-Austere Ferment produced in the Womb, but the Mass of Blood is not very much changed. He likewise makes the efficient Cause of the immoderate Whites to be the same, but acting (according as divers Symptoms are raised) diversly, and the

the material Cause is the Mass of Blood vitiated divers ways; yet he holds, that the Whites may be produced, without any such uterine Ferment, if so be Pituitous Humors abound in the whole Body, and be sent thence to the Womb, and so cast out of the Body. Our Author thinks, that in this Disease the Womb is affected in a twofold manner, to wit, mediately, the Glands, especially the Pancreatick, being primarily affected, which send the Acid to the Womb: Secondly immediately, these Glands not being hurt; if namely the Womb have taken Cold externally.

Therefore he holds, that the primary Cause of the Whites, must always be sought in the Womb; but the secondary Cause, and that which encreases it, in the Blood, and other bad Humours blended with the Blood, and with it tending to the Womb: And he proves that the Whites can neither proceed from Seed, nor from Spirits. He concludes therefore, that the Cause is the Blood, and the more viscous or serous the Whites are, the more viscous or serous the Blood then is, according to the diversity whereof there appears a diverse colour in the *excreta*. And he derives it from an acid Acrimony, which turns the Blood into something like Pus.

Among the antecedent Causes, he in the first place reckons excessive and long protracted grief of Mind, which is a great breeder of a noxious Acid, but especially of an Austere. Of which Acid and Austere in Women, he says, an unexpected Fright is a most certain Cause. He reckons up Cold, the abuse of Acids, and when the Womb is immediately

affected by the external Cold, so that according as it is disposed to the Whites, so Women are more or less apt to catch this Disease. He says, that in the Whites the Womb is so vitiated, that the Blood in it is corrupted, which according to the Variety of the Fault in the Womb, Varies much in regard of Colour, Smell, and Quantity. And he holds, that as the uterine Ferment is more or less Acid, Austere, or Sharp, or any other way Vitious, so it will in a different manner corrupt the Blood, that is carried to the Womb.

So likewise the Blood being diversly affected by other Diseases being or having been in the Body, will be corrupted into a different Humor by the same Ferment. So that, according to him, the diversity of the Humor in the Whites, depends sometimes upon the diversity of the corrupting Ferment, sometimes upon the diversity of the corrupted Blood, and sometimes upon both.

§. 10.

HAVING already considered other Mens Opinions, we will now give you our own concerning the Causes of these Diseases. And the Cause of them both must depend upon the Blood's being too abundant, too thin or sharp; or upon the Vessels which suffer either an *Anastomosis*, a *Diuresis*, or (which is very rare) a *Diapedesis*; or externals, to wit, an over hot and thin Air, Food or Physick, that is Hot, Inciding and Attenuating, or Menagogues, or things that open the Orifices of the Vessels, especially sharp, cutting, pungent Particles, excessive

excessive Watching, over much Exercise of the Body or the Parts of it, Riding, Running, Dancing, Playing at Ball, or at any other Play, sudden Passions of the Mind, Fright, Anger, various Excretions of Blood suppressed, Misfortune by a Blow, Fall, Wound, Ulcer, and the like. For according to Nature Women find a turgescence of Blood at the time of Menstruation; they have a Pain in their Back, a Throbbing and Racking in their Loins, a Weariness and Dulness in their Limbs, Head-ach, an Inflation of the *Hypochondria*, and then comes the excretion of Blood by the *Anastomosis* of the uterine Arteries. And we question not but a too great laxity of the Pores may be the Cause of this Disease, which is usually caused by divers moist things.

§. II. Cause of the Whites.

W^E think, that the Cause of the Whites, is a vitious *Serum*, corrupted in the vaginal Glands, sometimes Purulent, but often Serous, flowing out of the Glands of the Womb. *D. Mich. Bernhard Valentinus*, one of the College of the Curious, and our Friend, discourses excellently well of this subject in a Learned Epistle, *de nova Matricis & Morborum Muliebrium Anatome*, saying, "The last and worst corruption of the seminal Liquor is in the Disease, they call Womens Whites, which is proper to these Glands, and is indeed nothing else but a *coryza Uteri*, proceeding from a continual abscess, and most Fetid Corruption in the vaginal

Glands. He proceeds, "For the morbid Tyrant, is a putrid Thief in the glandulous Parts, which, defrauding not only the adjoining, but all the Parts of the Body of their nourishment, precipitates it into a putrid Liquor. This is shown by the iteems of the Body, hollowness of Eyes, and Cheeks, unusual lameness of the Limbs, which is obvious even to Women. Hence it is, that a kind of Cachexy accompanies this Disease, in as much as the *Viscera* being defrauded of their nutriment do flag, and their vital Ferments decay exceedingly, especially the Stomach, which wanting both Fewel and Fire, knows neither how to select nor volatilise the Meat; but turns it into a putrid Mucilage, which being no way corrected, gets where it can, into the Veins, and is nothing but an usefess load. At *Limburg* I opened a Woman forty years of Age, that died of this Disease, and found the Glands of her Womb swelled and hard, about the bigness of Pease. Here also sometimes Chyle may be voided, namely, when the Pores of the Arteries are so open, that Chyle can pass through them. And thus we have seen true Purulent Matter, voided from an Ulcer in the Womb. We, as well as other Physicians, do hold, that this Disease may arise from too much Thinness and Acrimony of *Serum*.

We blame in this Disease, not the obstruction, but the over Laxity of the Pores and Glands, when Puitous, Serous, and Sharp Humors gather thereabout.

§. 12. Prognostick of the excessive Menfes.

AS to the Prognostick of the immoderate *Menses*, we must observe, that all immoderate excretion of them, if not of it self, yet at least by accident, is dangerous, especially in elderly People, and if it continue long, for besides that it waists the strength, it is the cause of divers Diseases, to wit, of a Dropsie, *Anasarca*, *Leucophlegmatia*, Cachexy, straitness of Pores both in the whole Body, and especially in the Womb, of Inflammation, Exulceration, &c. and of other Diseases.

It also threatens an Atrophy, because when the Blood is diminished, it has not force enough in it, so as that the Particles fit, for nourishment, may be thrust forward strong enough to stick to the Parts, that should be nourished.

Hither belong the following Aphorisms of *Hippocrates*;

Señ. 5. Aph. 32. { A Woman that Vomits Blood is cured when her *Menses* come.

—5—36. { A Womans *Menses* discoloured, and not coming always in the same manner, do indicate that Purging is necessary.

—5—39. { If a Woman, who is neither with Child, nor lies in, have Milk, her *Menses* have left her.

—5—50. { If you have a Mind to stop a Womans *Menses*, clap a large Cupping-Glass to her Breasts.

—5—57. { When the *Menses* abound, Diseases do happen; and when they stop, Diseases proceed from the Womb.

—5—61. { If a Woman's Purgations do not come, and neither Chilness, nor a Fever follow, and if she loath her Meat, you may reckon her with Child.

—6—29. { A Woman is not troubled with the Gout, unless her *Menses* have left her.

When this Flux lasts a pretty while, it may be feared it will last a long time, because the Part is accustomed to the Flux.

This Disease is easily cured in young Women, but not so in the Elder sort, because here the Fibres, of the Arteries and Veins are solid and callous, and are not so capable of Astriction, yea, oftentimes the Disease proves incurable.

§. 13. *Prognostick of the Whites.*

BUT as for the Prognostick of the Whites, it is a more lasting Ail, especially in old Women, Cachectick, such as have had their *Menfes* long stopt, or quite gone, in Maids or Widows, that are troubled with the Green Sicknes, or such as have had some tedious and grievous Disease of the Womb, and whose cervical Glands are hardened or any other way hurt; for in old Women this Disease is not so easily cured, because in them the Fibres are more immoveable, and when the Pores of the Glands are once detorted, they constantly remain so, nor are they easily reduced to their pristine Figure.

Yet it has little danger in it, unless it prove of long continuance, and be very grievous in regard either of it self, or of the Cause whereby it is produced. For then indeed it occasions some grievous and very dangerous Diseases.

§. 14. *Dietetick Cure.*

AS for the Cure of the immoderate Flux of the *Menfes*; we think, the same must be insisted on here, as in other excretions of Blood, which has been declared before: For this differs but very little from the Cure of other Hemorrhages.

But in the Whites let the Patient use a serene and warm *Air*, at least let her avoid Rain and Cold. The *Food* must be contrary to the peccant Humour; and above all things let them forbear Acids, those Ene-

mies to the *Serum* and Glands: Hence we observe in *Holland*, that this Disease is very frequent, because Women at the Table eat Salads immoderately. The Food must also be of ealie Fermentation and good Juice: Sometimes it will not be amiss to miss Supper. Drink but little. The Motion of the Body and Exercise must be Moderate. Sleep and Rest must not exceed their bounds, because all excess is bad: for as idleness makes the Body Sluggish, so

Attenuant juvenum vigilat corpora noctes.

All Passions of the Mind, especially Grief, which may encrease this Disease, must be avoided, and agreeable ones must be moderately exercised. The excreta and retenta must ordinarily correspond, especially to the quantity of what is taken.

§. 15. *Pharmaceutick Cure.*

THE Pharmaceutick Cure of the immoderate *Menfes*, according to the *Galenicists*, is the same, which was proposed for the immoderate Flux of the Hemorrhoids. For first of all, for Revulsions sake, they bleed in the Arm; and in this Case they will have a great Quantity of Blood taken away; they commend frictions also, Ligatures, and Cupping-Glasses. To carry off the Bilious and Serous Humors, that abound in the Body, they prescribe Purges twice or thrice a Week; they also sometimes allow of gentle Vomits, inasmuch

as they frequently make Revulsion, Afterwards they give divers Juleps, Powders, Electuaries, Pills, and other Incrassating and Astringent Medicines proposed in the said Cure, adding, if there be occasion, Opiates. *Riverius* highly extols this following;

Take the shells of two new laid Eggs burnt, of Frankincense, Mastic each half an Ounce, Pearl prepared, red Coral prepared, Amber each two Drachms, Bloodstone, Emerald prepared each half a Scruple, Barley-Flour two Pugils, ten Whites of Eggs. And, if there be occasion, add a little Chalybeate-Water, and make two Cakes, which must be baked in an Oven, till they may be Powdered. The Dose is half a Drachm, or a Drachm with Sheep's Feet Broth, early in the Morning.

You may find more of the Ancients among the empirical Medicines.

§. 16.

Paracelsus cured a certain Woman, who had had this Flux of Blood with Fainting a long time, by giving her Oyl of Vitriol in Plantain Water, and a Drachm of Cornelion. He also commends tincture of Corals, which is made with a Pumice;

Take of Coral half an Ounce, Oyl of Myrtles one Drachm, *Olibanum* one Ounce, melted Salt two Ounces. When they are mixt, Calcine them in the fourth Degree of a Reverberatory for twelve hours, or more. Then

make an Ablution with Plantain Water.

Crollius, his Disciple, commends the Electuary of *laudanum* in voiding of Blood, and excessive evacuation of the *Menses*, with *crocus Martis*, and red Coral.

§. 17. Cure of the excessive Menses.

Splutus Cures the Menstruous Flux produced by an over thin, Sharp and Serous Blood, by abstaining from all Non-natural things, that corrupt the Blood, or at least by moderating them, especially, when the time of the *Menses* is near, by keeping from all Heat, Spirituous and Aromatick Food, generous Wine, and chiefly its Spirit, from Anger, violent and long motion of the Body. He commends divers Emulsions made of Almonds and white Poppy Seeds, Opiates also are good. For evacuation of Bile, he commends Tamarinds, which also thicken the Blood; as all Austere and Bitter things, commonly called Astringents, do. Such are the expressed or inspissated Juices of most unripe Fruits, Verjuice, *Acacia*, &c. And if there be much Serum lodged in the Blood, he judges it should be evacuated by Hydragogues, given a few days before the time of the *Menstrua*, if the strength will bear it. But if an over lax Constitution of the Womb be the Cause, care must be taken to avoid all external nocent Causes, and to amend the damage received, and the too great laxity in the Womb: for which purpose Astringents are good, which may be

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given

given in form either of a Powder, or Pills, Electuary, or Mixture, or in what other form may be most acceptable to the Patient, so that she may persevere some time in the use of them. He also commends a fume of Mastic, Frankincense, and red Roses. He likewise approves of Fomentations made of divers Astringent Roots and Herbs boyled in red Wine, and applied outwardly.

§. 18. Cure of the Whites.

THESE things premised, our next work is to treat of the Cure of the Whites, according to Sydenham his way, which he says must be varied according to the diversity of the Cause. If therefore the ferment of the Womb be Acid, the primary Cure of the Whites will consist in the amendment of this vitious Ferment, and the Secondary in the correction of the whole Blood. Therefore the preceding Causes must be taken care of, such as Cold, grief of Mind, Fright, Abuse of Acids, &c. Then the Acid-Austere and sometimes sharp Ferment, may very well be corrected by pure volatil Salts, such as Spirit of Sal Ammoniack; and temperate oleous things are very useful in amending a sharp Acid. And for correcting the tainted Blood, which is peculiarly corrupt, and occasions the Whites, or sometimes makes them worse, he says, divers both Alteratives and Evacuators must be used according to the Variety of the Cachexy.

§. 19.

HAVING done with others, it remains that we give you our own Cure, founded upon right intentions. The Cure of the excessive *Menstrua*, differs very little from the Cure of other Hemorrhages: Since External or Topical Medicines must in this Case, be only applied to the Womb, as to the Part affected.

The Blood therefore, and the enraged Uterine Spirits, must first of all be quieted, which may easily be attained by giving gentle Incrassating and Astringent Uterines; and, if there be a *Plethora*, by bleeding in the Arm; and, if Serous or Bilious Humors abound, by giving gentle Purges of Tamarinds and Rhubarb, which we commend in the ordinary Drink, *Elect. Passulat. Tamarind*, &c. Then we must fall to Incrassating; for which purpose all Earthy Glutinous things are good: for instance the following Electuary is excellent;

Take of old conserve of red Roses one Ounce and an half, root of Comfrey half an Ounce, Pulp of Quinces preserved three Drachms, *confectio de hyacyntho*, red Coral prepared each one Drachm, Amber prepared, Ivory prepared each half a Drachm, *pulvis sperniolæ compositus* one Scruple, Syrup of Quinces; Myrtles each what is sufficient, make an Electuary according to art. Or,

Take of red Coral prepared, Blood-Stone prepared, Bole Armenick, true Unicorn's Horn, Seed of Plantain each three Drachms, Crude

Crude Gold two Scruples, *Laudanum Opiatum* five Grains Mix them, with Syrup of Plantain or Myrtles what is sufficient. Make an Electuary.

Oyl also destilled off Bole Armenick is excellent in stopping the *Menses*. Or,

Take of *Diascordium* half an Ounce, red Roses one Ounce, Dragon's Blood half a Drachm, Powder of white Henbane seed two Scruples, Man's bones calcined, *trochisci de terra sigillata*, *vitriolum Martis* each one Scruple. With Marmalade of Quinces what is sufficient, make an Electuary. Let the Patient take the Quantity of a Filberd or a Chestnut at once.

Things highly valued in this Case are tincture of Corals, tincture of Sulphur, *tinctura antiphtisica*, tincture of Vitriol, tincture of Bloodstone, *tinctura Martis astringens*, *sperniola Crollii*, *species diarmatis*, *diaplanginis Mynsichti*, *pilula styptica ejusdem*, Essence of Mummy; but in this Case *Mixtura styptica Sylvii* is above them all. In lean Persons, where the Humors are over sharp, a Diet of Goat's or Asses Milk is excellent. In extremities we must have recourse to Anodynes: for instance;

Take of red Coral prepared, Yellow Amber, Bole Armenick, Dragon's Blood each two Drachms, Seed of Plantain one Drachm and an half, *Laudanum Opiatum* three Grains, *extra-ctum croci Martis* one Scruple, Syrup of dried Roses what is

sufficient. Make an Electuary according to art.

If Arterious Blood come, Water of a Stag's Heart, and of the Velvet Head of a Stag is admirable, and now and then this, or some such Potion may be given, adding some Opiates, which do the whole business.

Take of Water of the Velvet Head of a Stag, Shepherd's-Purse each one Ounce, *Laudanum Opiatum* one Grain, Moss of Man's Skull six Grains, Syrup of Coral half an Ounce. Mix them for once taking. Or,

Take of Water of Plantain, Purslain, *Cordialis Saxon. frig.* each two Drachms; Bloodstone prepared half a Scruple, *pulvis sperniolæ Crollii* four Grains, *Laudanum Opiatum* one Grain, Syrup of Quinces three Drachms. Mix them. Or in form of a Powder;

Take of *pulvis stegnoticus* two Scruples, *Laudanum Opiatum* one Grain, *crocus Martis astringens* two Grains. Mix them.

All testaceous things, which have a Virtue of Correcting the Acrimony of the Blood, and of closing the Apertions of the Vessels, are proper here. And so are things, that expel the corroding Humors by Sweat or Urine; to which purpose Decoctions of the Woods or Essences made of them, do conduce; Receipts whereof we have given you before. *Rodericus à Castro* magnifies this;

Take of the Juice of Asses Dung, Syrup of Myrtles each half an Ounce. Water of Plantain three Drachms. Mix them.

Or this following may be given;

Take of Chalybeated Styptick red Wine two Ounces, Gum Arabick, Tragacanth each half a Drachm. Mix them.

Here also will be proper things that sweeten and dilute the Acrimony, such as watry things, Whey, &c. Thus not long since I cured a Girl, who had been troubled with this excessive Flux, for above a year, by drinking twelve Ounces of Juice of Birch every Day, for fourteen days together.

Outwardly also, as in other Hemorrhages, Astringents, Incrassants and Anodynes may be applied to the *Hypogastrium*, *Pubes*, or other Parts: So Vinegar applied to the *Hypogastrium* either with linen Cloths or with a Sponge, is good. Also *Emplastrum Stypticum* or *ad rupturam Fernelii* does help; a Decoction of Alum often does the business. A Pessary soaked in a Decoction of Swine's Dung is of great use. Or;

Take of the Moss of a Sloe-tree, root of Tormentil, Bistort each one Drachm, Galls one Scruple, *crocus Martis astringens* half a Scruple. With a sufficient Quantity of *Acacia*, make a Pessary. Cover it with red Silk. Tye a thread to it, and use it.

Mr. Boyle cured a Gentlewoman, who had had an Uterine Hemorrhage for four Months, only with the Sympathetick Powder made of Hungarian Vitriol. And she was afterward so obstructed thereby, that she was very ill for want of her *Menfes*, and he was forced to provoke them again with tincture of Amber.

Wherefore I have in an Impetuous Flux of the *Menfes*, applied my Styptick Martial tincture, with extraordinary good Success.

I also highly value linen Cloths wet in Vinegar, and often applied to the Breasts.

Dung's also of Animals, as Swine's and Asses, tied in a Bag, boyled in Vinegar, and applied to Women, have often excellent effect. Or linen Cloths may be put in the following Decoction and applied;

Take of root of Tormentil, Bistort, Comfrey each half an Ounce, leaves of Plantain, Money-wort each one handful, Shepherd's Purse, knot-Grass each half an handful, Agrimony, Nutmeg, red Sanders, Pomegranate Flowers each one Drachm and an half. Boyl them in Smiths Water, and apply it.

Baths also or *Infessus* may be made of those things.

The following Epitheme seldom failed us;

Take of Water of Frog-Spawn, Nightshade each two Ounces, Vinegar of Roses, *saccharum Saturni*, *spertiola Crollii* each half a Scruple. Mix them.

The *Unguenta Styptica Mynsicht. Comitiff.* mixt with divers Astringents do not want commendation.

Louyse Bourgeois commends this following;

Take of roots of *Eryngo* two handfuls, boyl them in Wine. Let her wash well Morning and Evening, and then apply them with warm Cloths, after washing. She must begin to wash behind her Ears, then her Neck, then the whole Spine to the *os Sacrum*. Afterwards she must Anoint the *Ilia* to the Womb.

She has seen some cured with this Remedy in three Days, who could by no other means be Cured.

We do not disapprove of Cupping-Glasses or Ligatures.

§. 20.

LET us briefly see the empirical Medicines.

Prævotius in the excessive Flux of the *Menses*, commends Syrup of Asses Dung.

Beetius commends Jasper stone, and others a dried Toad, hung about ones Neck.

Joannes Theod. de Bry his Specifick is Shepherds-Purse and Arsmart, put in ones shooes.

The Powder of Dead Nettle, and washed Sponge is commended by several; and the Powder of the Matrix of a Hen put into the Orifice of the *Pudendum* is highly valued by *Crollius*.

Digby's experiment is a Drachm of Powder of Man's Skull, infused a Night in white Wine and Drunk.

Rodericus à Fonseca highly extols this following;

Take of dried Mastich-Tree cut two Ounces. Boyl them in eight Pints of Water. Let her Drink it for several Days, especially when the Flux is Immoderate.

Or four Ounces of Water of Sulphur may be given for a Dose.

Grulingius commends the Fume of dried Oak leaves which may be received under her Cloths.

Joannes Hartmannus in the excessive Flux of the *Menses* takes a Girdle, sows green leaves of black Hellebore to it, and girds it about the Loins.

Casp. Caldere de Heredia says, a Bath of a Decoction of Alum, is a most effectual Remedy, if it be repeated four times.

Joannes Johnstonus his Specifick is the Cuticle of Geese Feet, dried, and given from half to a whole Drachm.

Domin. Leo commends cold Water, in which the Patient must sit.

Ambr. Paræus extols Quinces roasted in the Ashes, mixt with Bole Armenick and Myrrh, and put into the Neck of the Womb.

Henricus Petreus commends root of white Water Lily, boyled in Wine and drank.

Primrose commends *Sal Prunella* diluted with Water or Juice of Plantain.

Riverius reckons the taking a Drachm of the Powder of Chestnut for a secret.

Joannes Schroderus has the following experiment. A Cloth dipt in the Menstruous Blood, must at a certain time be stuck into the Bark of the Root of a Cherry-tree opened. Some give the Patient her own Menstruous Blood.

Sennertus uses Asses Dung inwardly and outwardly.

Take of Juice of Yarrow three Drachms, Sugar one Ounce or Syrup of Coral. Give one spoonful.

Some commend the taking a Drachm of *Filipendula* root.

Solenander has often tried the following experiment;

Take of the Flowers of Nuts, when they are Ripe, and falling, give a spoonful for several Days in the best Wine upon a fasting Stomach.

§. 21. Cure of the Whites.

THESE things premised, let us now briefly see the rational Cure of the Whites, which differs not much from the Cure of a *Gonorrhœa*. The Cure therefore of this Chronical Disease consists in a Correction of both Peccant Causes by convenient Medicines, in a Mitigation of the most urgent

Symptom, and in Corroborating the Cervical Glands and Uterine Spirits.

Both Causes are Corrected especially by Aromatick Balsamicks, such as roots of Galangal, Bistort, Florentine *Iris*, Elecampane, &c. Among Herbs these are proper, Mugwort, Motherwort, Savine, Wild Majoran, Bay leaves, *Scordium*. These things also are good Bay-berries, Aniseed, *Daucus* Seed, red Coral, Crab's Eyes, Chalk, Shavings of Harts-horn, and Man's Skull. Volatil Salts are not to be despised, as being very useful in tedious Diseases, and in correcting Acido-Austere Liquors. And according to the different way whereby each Cause offends, divers receipts of these things may be prescribed, both to be taken inwardly, as Decoctions, Physick Wines, Pills, Powders, Electuaries, Mixtures, &c. And outwardly, as Fomentations, Fumes, &c.

Gumms and Resins are very good in this Disease, and Turpentine better than any, which, as in a *Gonorrhœa*, so also in this Disease is of great Virtue, because it is a disease of the Glands. Aromatick Oyls and other things may be used in this Case. Which things premised, we ought to carry off the corrected Humors, either by Phlegmagogues or Hydragogues. So also Rhubarb and Turpentine are good, because they moderately astringe and consolidate. The Evacuators may be Pills of the Gumms, *fatidæ Majores*, tincture of Jalap, &c. or the following Medicated Wine;

Take

Take of leaves of Endive, red
Roses, white Melilot, St. Johns
wort each half an handful,
leaves of Mugwort one hand-
ful, root of black Hellebore,
Sponge prepared each half an
Ounce, Seeds of *Carthamus*
six Drachms, Rhubarb half
an Ounce, root of Bryony three
Drachms, large Cloves two
Drachms, Salt of Tartar two
Drachms. Mix them. Make a
Bag.

Or in ferous Whites the following
Bolus;

Take of Rob of dwarf Elder two
Drachms, Resin of Jalap seven
Grains, *Mercurius dulcis* ten
Grains. Mix them. Make a
Bolus.

When the Humors are evacuat-
ed, you may with greater safety
stop the Whites; and here all
things are good which strengthen
the flaccid Glands and the Spirits.
To which purpose Cinnabarine,
Bezoartick, Antimoniate, Succ-
inate, and Lignous Medicines do
promise a singular Energy and
Effect. And all Catarrhal Bal-
samicks, such as Myrrh, Amber,
and Camphore are proper, because
they stop defluxions. The fol-
lowing Powder is excellent;

Take of Cinnabar of Antimony,
Magistery of Saturn, Amber,
Antimonium Martis Cachecti-
cum, Cuttle bone each one
Scruple, *Laudanum Opiatum*
two Grains. Mix them. Make
a Powder. The Dose from

a Scruple to half a Drachm.
Or,

Take of Conserve of Rosemary
Flowers three Ounces, Shav-
ings of Harts-horn, Magistery
of Amber each three Drachms,
lapis osteocolla one Drachm
and an half, Shells of Hazle-
Nuts Powdered half an Ounce.
With Syrup of red Roses make
an Electuary. Let the Pa-
tient twice or thrice a Day
take the Quantity of a Chest-
nut or a Walnut of it.

Here also *tinctura Antiphthi-*
sica joyned with *Anodyna*, and
given often, will do good.

We often use to cure this Di-
sease with one only slight Remedy;
and, unless there be something
else to hinder the Cure, we dare
engage this will perform one. It
is the following Powder, which
we often repeat;

Take of Egg shells calcined half
a Drachm, Vitriol of Mars
from six Grains to ten, and
there may be added to this
Powder, Camphore three Grains,
Laudanum Opiatum one Grain,
Saccharum Saturni five Grains.
Mix them.

For all Nitrous, Saturnine, and
Aluminous Medicines are proper.
This following will not be incon-
venient;

Take of Egg shells calcined, white
Amber, *Osteocolla*, Mother of
Pearl prepared, *alumen plumo-*
sum each one Drachm. Mix
them.

them. The Dose is half a Drachm.

Tincture of Coral prepared with Spirit of the Woods, often giving thirty drops of it at a time is an excellent Remedy. Cuttle Bones also because of their special properties (whereby, besides their general use in correcting a morbid Acid, they also are good in the Whites and *Gonorrhœa*) may be used.

And several things may be put in ones Drink: for instance;

Take of Flowers of white Roses, white Melilot, Endive each one handful, roots of *Filipendula*, Water Lily each one Ounce, Mastich Wood one Ounce and an half, Mistletoe of the Oak half an Ounce. Mix them. Make a Bag.

For the inveterate Whites we, as well as *Bartholine*, commend Emulsions made of Chalybeate Water, adding some Powder of Ivory.

Externally Baths are good, made of Sulphur and Alum, and other Astringents; also *Infessus*, Fumes, Unguents, Plasters, &c. prescribed before. But in this Case an Injection into the Neck of the Womb of a Decoction of *Guajacum* is excellent good; or a Catarrhal Fume may be received, made of Mastich, Amber, Frankincense, and other moderate Astringents, as we use to do in a *Coryza*.

Among empirical Medicines Authors commend these following;

Joannes Agricola commends *oleum Martis viride*.

Louyse Bourgeois orders the Patients to eat twelve citrul Seeds, and to drink after them. And this is very good for the Whites.

Hartman. Corbaus accounts it as a secret, to give every day one Drachm of green *Filipendula* root in black Wine. He also commends an Unguent made of Clary and Butter, wherewith the Woman must Anoint her Belly to the *Pubes*. He also magnifies a Fume of Sage, if it be received into the Womb.

Digby commends the Fume of Sulphur of Antimony.

Rodericus à Fonseca commends Mastich-tree Wine as an approved Remedy.

Petrus Forestus gives us this following as an experienced Medicine;

Take of the Jaw of a Pike, the Head of a Capon dried in the Oven half an Ounce, Date Stones two Drachms, Coriander prepared, Aniseed roasted each one Drachm, root of Water Lily half a Drachm, Sugar of Roses three Ounces. Make a Powder, and give some of it in red Wine.

Abraham Frambesarius commends a Decoction of *Guajacum* Drunk in the Morning for several days above other things.

Grulinius saw an old Woman cured of this Disease, who took a

linen

linen Cloth wet with the Whites, and hung it in the Oven, upon which they ceased.

Hieronimus Mercurialis protests he has cured this Disease by giving a Drachm of Hares Runnet in a Decoction of Oak Leaves, for eight or ten days.

Panarolus cured it with a Decoction of Pine and Mistletoe.

Reinerus Solenander commends the taking of new Milk boyled, with Gold quenched in it, to the Consumption of a fourth or third part.

Ludovicus Septalius says, that Salt Baths are a very present Remedy.

CHAP.

C H A P. V.

Of Barrenness.

§. I.

Great is the obscurity and blindness of Physicians about the Generation and Birth of Man, so that the Sacred Writ it self seems to intimate the same, *Eccl. 11.* Before therefore that we come to the Disease, we will discourse the Work of Generation. Careful Dame Nature has three ways of Generation. 1. Out of Putrefaction; as all or most insects. 2. Out of Seed committed to the Earth, which after Fermentation germinates; so grow Plants. 3. By *Epigenesis*, that is, out of an Egg, as most Animals are Born, and the most noble of them, Man, according to *Van Horn*, *Kirkringius* and *de Graaf*, who maintain, That in Women's Testicles there are Membranaceous little Bladders, full of Humour, which they do very well style *Eggs*; and they demonstrate that Man is generated of such an Egg, and that there is a very fruitful Ovary in Women. The Vulgar sort of Physicians indeed do hold, That a Woman's Seed is contained in her Testicles, is mixt with the Man's in her Womb, and that so a Conception is made. But *Harvey*, in his excellent tract *de generatione animalium* p. m. 2. says, That

all manner of Animals, even the Viviparous, yea, Man himself is bred of an Egg, and the first conception of them, out of which a *Fœtus* is made, is very Eggs. *Aristotle* thinks Conception is made out of the Menstruous Blood. But the most received Opinion concerning the manner of Conception is, That every Egg in its proper Receptacle or Testicles, is Fecundated by the virile contact, that the Fecundated Egg does Day by Day encrease; at length through the necessity of Place and Site it is excluded thence into the Womb, and there it ferments, till it hath received all the Lineaments or Parts; therefore *Steno* says, That every Womb, while it has a *Fœtus* in it, is with Egg. Which Opinion has already been proved by many Reasons and Experiments. We conclude therefore with *Regner de Graaf*, and others, that those Vesicles, which the Coat of a Woman's Testicle does involve, are true Eggs, out of which, and in which Man's Body is Generated: These Eggs are Fecundated by Spirits exhaling from the Man's Seed, and by the benefit of the glandulous Body are discharged into the *tubæ Fallopianæ*; through which they are conveyed into the Cavity of the Womb. And hence it may certainly be concluded

concluded, that these Eggs ought to remain in Womens Testicles, till they are Fecundated by a virile Air; for that you can no where see the Membrane of the Testicle perforated, and therefore it cannot give a passage to the Egg; but when the Egg is Fecundated with the virile air, about that time a certain glandulous Body is Excreſcent, which affecting the Membrane of the Testicle draws off one Egg from another, which when done, this glandulous Body in time vanishes, and the Woman's Testicle is reduced to its pristine State.

Wherefore Dr. Charleton *lib. de Scorbuto p. m.* 78. says, the geniture is reckoned most Fruitful and fullest of Spirits, which is far and strongly ejaculated. And so the Noble *de Graaf* quotes the Opinions of the best Authors about Conception and Woman's Seed, *cap. 13. de Mulierum Organis*. To whom for brevities sake I refer my Reader.

Description.

Barrenness is described to be, *an Impotency to Conception through some fault in the Womb, the Ovary, or its Vessels*. Here we shall only examine Barrenness, so far as it concerns a Woman alone.

§. 2. Part affected.

BY the consent of all Physicians the Womb is acknowledged for the Subject: Though some alledge, that so it has sometime happened, that a Woman has vomited a Child of a Fingers length. See *Salmuth*

concerning this Conception. And so *Bartholine* relates, how a Bitch and a Cat brought forth their young ones at their Mouth, and Expired. Some also affirm, that a *Fætus* and a Mole have been conceived in the tubes of the Womb; but these things are rare. We take for the Subject, the Womb with the *tuba Fallopiana* annex to it, and the Woman's Ovary.

§. 3. Diagnostick.

THE Signs of this Disease are manifest; for such as are Barren, either bear not at all, or very seldom, and they breed but Weak and Tender Children: But all the contest often is, whether the Cause lie in the Man or the Woman? This causes Grudges and Litigiousness between a Man and his Wife, while the one accuses the other of Impotency. For the deciding of this controversie, Antiquity has proposed several ridiculous things: for instance; Take each Married parties Urine, and Pour it upon Lettuce, and whose side Withers, there is the Barrenness. But it may far better be known, by the cold temperature of the Woman, her strait Loins, defect of hair on her Pubes, and other Parts, and by the Whites. And hence perhaps it is, that this Disease is only cured now and then by Chance, for it need not be questioned, were the causes certainly known, but more might be cured of it.

§. 4. Causes.

§. 4. Causes.

BUT to say no more of these things, we will proceed to the *Ætiology*, and see what the *Ancients* reckoned to be the Cause of Barrenness. And among them the *Arabians* fly to occult Qualities.

The *Stoicks* lay the principal blame of sterility upon the disagreeable Powers and Qualities of the Bed-fellows.

Some have the Faculty of their Womb frustrated from their Conception. *Riverius* has four Causes. 1. When the Reception of the Seed is hindred, either through the Smallness and Narrowness of the Genital Parts of Young or Old Women; which also is hindred, when Maids are Lame, and have their Thighs distorted; or are Flat in the Hips, so that in Coition they cannot well make a convenient Figure for the due Reception of Seed. He adds excessive Fatness, which straitens the passages of the Womb. Among the Nonnatural things he reckons the Passions of the Mind, especially hatred conceived between the Married Parties, whereby the Woman being averse from this sort of pleasure, does not supply Spirits sufficient, wherewith the Genitals at the time of Congress should be Turgid, that the *Matrix* as it were overjoyed may meet the Man's Seed, and kindly entertain it, and draw it into its Cavity and also Irrigate it with her own Seed, poured out in that pleasure, that so (as he speaks) from the commixtion of them both a Conception may arise.

2. So also the *Ancients* say, Conception is hindred, when the Seed is not retained, either by reason of the excessive humidity of the Womb, or of external humid Causes, as Bathing, Idleness, moist Diet, or of the Whites of a long continuance.

3. *Riverius* his third Cause is, when the Seed is corrupted in the Womb.

4. He assigns the fourth Cause of Barrenness, when a Woman affords not matter sufficient for the Conformation and encrease of the *Embryo*, through defect of Seed or of Menstruous Blood; so such as are either too young or too Old, conceive not, for want of both Matters.

§. 5.

Hemont acknowledges neither Heat, nor Cold, nor Moisture, nor defect of the *Menstrua* nor any thing else for the true Cause of Sterility. For he says, "I see only one Cause Adæquate and Co-ævous to a positive Entity, which is called Barrenness, described by the Scriptures in these Words. *GOD opened Sarah's Womb*. For it is the gift of God, conferred on Nature, whereby the Parchment of the Womb, well closed with its Folds, is opened and dilated at the congruous Moment of Congress. There is (says he,) a Magnetick drawing *Blas*, by which for fear of a *Vacuum* an Attraction of Seeds and an Adæquate Repletion of the dilated Folds follows that Apertion. That is, the foresaid Apertion Sucks for fear of a *Vacuum*; which, if it be done in an undue Moment, is done

“done in Vain. For the Womb of a
 “Virgin is scarce two Inches wide,
 “because it is folded into it self in
 “very little Folds. But the opening
 “of it consists not in Man’s will,
 “or in Titillation, or Luxury, but
 “altogether in the Divine good
 “pleasure, wherefore there are some
 “gifts dispersed in Nature of Open-
 “ing and Shutting; so that some
 “Simple have obtained this Facul-
 “ty. Nor is it sufficient that the
 “Womb open at the stated Mo-
 “ment, unless the arriving Guest
 “be grateful to the place. For if
 “it be touched with any Taint, all
 “hope of Generating with that
 “Man will be in Vain, because the
 “offended Womb, conceives a rage
 “of Abhorrence, scarce to be re-
 “conciled.

§. 6.

W^E, with other Authors, will now examine the Cause of Barrenness through the Wife’s fault; as for the Man’s, we shall examine that, in another place. Some therefore are Barren, either because they are Imperforate, or their *Vagina* is too strait, to admit a Man. Some again can admit a Man; but either the Seed, or the Air of it, cannot reach the Ovary, sometimes through the Falling-down of the Womb, or the Cervical Glands of the Womb being Swelled, or in such as whose inner Orifice of the Womb is distorted, closed up, or any way straitned, or because of Tumors, Exulcerations, Cancer, &c. or because the *tube Fallopiana* are obstructed: and thus the passages from the Womb into the *tube Fallopiana*, are ei-

ther obstructed, closed up, or compressed.

Some are Barren because their Eggs are either Intemperate, obstructed, hardened or wrapt in an over hard Membrane, so that they cannot ferment by contact of the Man’s Seed. Others, because their Eggs are little or juiceless, and have nothing in them. Others, because they are Intemperate in their whole Body, either Cacochymick, or over Fat, or they have their *Menfes* too much, or the Whites; but generally the Cause of Barrenness lies in the obstruction of the *tube Fallopiana*. So we opened a Barren Woman, whose Tubes were Cal- lous; and another had Stones in her Tubes. For if they be obstructed, the seminal Air cannot reach the Ovary, so as to Fecundate them. And it is apparent, that the obstruc- tion of these Tubes may happen divers ways, either by viscid Phlegm, or an Austere Acid, a *Callus*, or Stone: these passages are stoppt also by too much Fat, which Fat like- wise by its oleosity hinders the re- fluent Liquors from fermenting: whence it is, that over Fat Women do not easily Conceive. There may also be an abhorrence in the Plastick Spirit. And Conception may be hindred by an Ill Constitution and too great Laxity of the Pores.

To these may be added external Causes, to wit any intemperate Air, or one too thick, cloudy, stinking and impure. And Watry, Acid, Austere, Glutinous and Gross Diet, and sometimes Spirituous, Hot, Aromatick and Melanagogick Me- dicines used immoderately; the abuse of Incrassating and Moistning Medicines, Baths, &c. Watching, excessive and unseasonable Sleep,
 ove

over much exercise of Body or Mind, an Idle and Sedentary Life, Passions of the Mind, and especially hatred. Excretions either suppressed or excessive, and especially a *Diarrhoea*, excessive *Menses*, Whites, too much Sweating, Vomiting and the like. Finally misfortune by Abortion, difficult Travail, a Wound, Ulcer, Swelling of the Glands, stone in the Bladder, Blow, Fall, Contusion, Compression, &c. or from Causes or Diseases both of the Womb it self and the adjoining Parts. As for what Authors talk of the Stars and Enchantments, I have ever been dubious in the Case.

§. 7. Prognostick.

AS to the Prognostick; this Disease is not dangerous, and oftentimes not very prejudicial to health. It is Chronical and often incurable, chiefly that which arises from a Coalition of Various parts of the Womb, especially from a total obstruction of the *Fallopian* ducts by a *Callus*, Stone, &c. or by grievous Diseases of the Womb, an *Atheromasteatoma*, *Scirrhus*, Cancer, Gangrene, tedious Whites, &c. Likewise, if there be a carnosus Excrecence in the *tubæ Fallopiæ*, or if there be an excessive Copulency, and if it be Connate.

§. 8. Dietetick Cure.

PART of the Cure consists in Diet, or the six Non-naturals. The first of them by the general consent of Physicians is the *Air*. It must be temperate: Cold

and Winter Air must be avoided. The change of Air has made many Women Barren; I could give an instance; but for some reasons I shall forbear. The *Food* must be of good Juice, we reject all that is Crude, Windy, Viscid, Acid, and over Aromatick. *Drinking* of Cold Water is hurtful, and Wine, excess in which has made several Women Barren, as daily experience, alas! does testify. We disapprove of Guzzling too much *Coffee* or *Thea*. *Motion* must be moderate, to much must be avoided: for the reason why the *Scythian* Women are often Barren, is their too much riding. And therefore *Aristotle* writes, that through bearing too great burthens and over toying, the *Barbarian* Women are apt to be Barren. Upon this account, we blame Jumping, Shouting, Bawling, Coughing, and frequent Sneezing. Nor must we exclude *Passions of the Mind*, to wit, Anger, Sadness, Fear, Hatred, Joy, Love. *Sleep* must not exceed bounds; nor must it be unseasonable: So over much watching may do harm, inasmuch as it greatly suppresses the animal Spirits, which ought to contribute much to Conception. In this case especially the *excreta* and *retenta* must be agreeable to Nature: For the *Menses* either suppressed or exceeding, or the Whites, do harm. Excess in *Venus* is hurtful; therefore we see, Whores are generally Barren, because the Vessels, are too lax, so that an Egg cannot stick to the Womb.

§. 9. *Pharmaceutick Cure.*

NOW we are happily fallen upon the Pharmaceutick Cure. And we will first see the *Galenical*, and indeed that of *Riverius* who according to the diversity of the Cause insists upon a diverse Cure. That therefore which has its rise from over Fatness, must, according to him, be cured by an extenuating Diet, and convenient Evacuations. If Barrenness proceed from an ill Course of Diet, as in Gluttonous, Drunken, and Water-drinking Women, he advises such to a strict rule of living. He says, the robust *Virago's* must be effeminated, by abstaining from Meats of a gross Juice, by Labour and Exercise, and the convenient Flux of the *Menstrua* must be procured by repeated Purgers, and Venesection.

But if it proceed from a closure of the Womb, Distortion, Obstruction, Tumor, or Ulcer; care must be taken of them by proper Remedies. So an over Hot and dry Constitution, must be corrected by Coolers and Moistners; and an over cold one by Heaters. For *Riverius* says, That a cold and moist Intemperature is the most frequent Cause of Barrenness: therefore in this Case first of all he orders the pituitous Humors to be evacuated by Purgatives, Diureticks and Sudorifics. For Revulsion's sake he applies Cauterics to the Arms and Legs. Then he will have the principal Parts strengthened with Treacle, Mithridate, *tabell. arom. refat. confectio Alkermes*, &c. Afterwards he has recourse to such things

as have a Specifick property to strengthen the Womb, help Conception, and provoke Venery, Receipts whereof you may see in *Riverius*.

§. 10.

IN our Opinion the Indication in Barrenness may be manifold, and now and then contrary; and so divers Remedies may be serviceable to Women: Which makes me the more to wonder at the Ignorance and Stupidity of those Men; that think they can by one and the same Medicine, Cure all Barren Women; and boast of I know not what Specificks. But we, according to reason, do judge, That a different Cure should be insisted on, as the Causes differ; and Specificks may be used in all.

Barrenness therefore, that proceeds from a Woman's incapacity to admit a Man, is cured by removing the Impediments. That which proceeds from an *Acido-Austere*, contracting the *Fallopian* ducts and other Vessels, and sometimes putting their Fibres into Convulsions, and so disquieting the plastick Spirit, is cured by things that correct an Acid, and an Austere, such as are volatil Aromatics; also divers Absorbents, Cinnabarines, &c. Which end the following Powder answers, half a Drachm of it being often given;

Take of native Cinnabar half a Drachm, shavings of Ivory two Drachms, Woman's Secundine dried one Drachm. Salt of *Satyrion* half a Drachm. Mix and give it.

But if the *Fallopian* duct be stoppt by tough Phlegm or some Tartareous matter, so that the Man's Seed cannot Influence the *Ovarium*, in that Case divers Preparers will be proper, as Inciders, Attenuants, and Purgers. Among Preparers and Inciders, this following, or some such Physick Wine, will be proper ;

Take of leaves of Rosemary, Baum, Sage, Mercury each one handful, root of Eryngo two Ounces, *Cassia lignea*, large Cloves each three Drachms, Seed of *Ammi*, Sermountain each half an Ounce, shavings of Ivory two Drachms. Put them in a Bag.

So a Decoction of Rosemary in Wine, for the ordinary Drink will be good, essence of Sassafras Wood, *Satyræ Crollæ*, and Amber, made with Spirit of Baum, are generous Remedies in this Case.

All volatil Salts are good, inasmuch as they open the obstructed passages. *Hartman* commends Salt of *Satyræ*, if half a Scruple of it be given often in Sack or *aqua vitæ Mulierum*. So *Platerus* gives Oyl of Majoran, and Musk each one Grain, with Hare's runnet in some convenient Vehicle. Indian Chocolate well aromatized, and taken every Day in Milk, has an excellent faculty, in exciting the Spirits of the Womb, and also of opening the passages.

These Preparers and Inciders premised, you must evacuate this Viscid Phlegm out of the Body, by this following, or some such thing;

Take of leaves of Mercury, Rosemary each half an handful, *car-*

duus benedictus two Pugils, root of Eryngo one Ounce, Flowers of Rosemary, Sage each three Pugils, root of *Mechoacan* one Ounce, white Agarick half an Ounce, seed of *Carthamus* one Ounce, *Ammi*, Sermountain each one Drachm, large Cloves, *cassia lignea*, the whitest Cream of Tartar two Drachms. Mix them. Make a Bag. Or;

Take of Conserve of Rosemary Flowers, Sage each half an Ounce, Refin of Jalap three Grains, *pulvis catholicus purgans* one Scruple. Mix them. With Syrup of Cinnamon. Make a *bolus*.

Pills also and Potions may be given if you please.

But if the Ail proceed from Poyson or a Philtre, then we advise Vomits. Thus a Noble Woman vomited up three Worms, and became Fruitful.

If the Disease arise from too much Seed, then extinguishers of Seed are proper, such as *agnus castus*, Wormwood, Camphore, &c. But if it proceed from some fault in the cervical Glands, then such things as we mentioned in the Whites, remove it.

If the teguments of the Eggs be too Thick, and cannot be fecundated by the Influence of the Man's Seed, the foresaid Volatil Salts will be good, especially volatil Spirit of Sal Ammoniack Anthosate, and divers Fumes, Infusions, Pessaries, &c.

If it proceed from too much Copulency, then beside a spare Diet, a Decoction of the Woods and their Essence, and sharp things may be used a long time. Here also *pilule contra*

contra pinguedinem Mynsichti with destilled Oyl of Sassafras Wood will be proper.

If from Paucity of Liquor contained in the Eggs, all things that increase Seed are proper, especially Chocolate boyled in Milk, and the following Electuary;

Take of the Conserve of Flowers of Sage, Rosemary each one Ounce, Candied Eryngo root, Candied Nutmeg each three Drachms, Chocolate of Sevil one Ounce and an half, Powder of large Cloves, Seed of Sermountain each two Drachms, with Syrup of Cinnamon make an Electuary.

Also *Diacinnamomum regium* is an excellent Medicine, *Conditum Mynsichti, ambratum, and moschatum*; also Panado made with Wine, Eggs, Mace and Sugar are good. And here the Parts of Salacious Animals are proper. Therefore the following Decoction is accounted a Specifick against Barrenness;

Take of leaves of Mercury, Flowers of Sage, Rosemary each one handful, large Cloves, Nutmeg each two Drachms, the Womb of an Hare, of an Hind dried each No. j. Make a Decoction according to art.

Of these and other things divers Electuaries, Infusions, and other forms of Medicines may be made, which are extant in Authors. *Ettmuller* highly commends preparations of Vipers, his Words are these: "There is therefore a true Balsam hid in Vipers, and in their Volatil Salt, which renews the oeconomy

"of the whole Body, and the efforce
"Ferments of the Bowels; it stoutly
"preserves, and strenuously restores
"the vital Fermentation of the
"Blood. Hence it is that an elegant
"rejuvenescence usually follows the
"drinking of Viper Wine. *Helidæus Padeanus in curat. p. 294.*
"says, That by eating broth of boyled Vipers, a Woman forty years
"Old, who before was Barren, after
"her Leprosie was cured, became
"Fruitful. Just as Cocks and Hens
"do, that are fed with Vipers, as
"*Zwelfer Animal. class. 12. writes.*
"And they are so very Fruitful, that
"eating of them has the same effects,
"and is good for a foul Scab, the
"Pox, &c. and for Fruitfulness,
"Prolongation of Life, Cleanness
"of Body, and Clearness of Eyes.

Simon Pauli, be the Cause what it will, recommends to Barren Women, the use of the Powder of the Herb Speedwel, which he gives them in the destilled Water of the same Herb, and he cites several instances of honest Matrons, who were made Fruitful by it. *Patterus* also, Doctor in Physick and Chirurgery, and Chirurgeon to the Court of the most Serene Prince of *Hesse*, solemnly protested to me, that he has often seen the use of Medicines made of Speedwel experienced in Barrenness.

If Barrenness proceed from the Glands being too Lax, divers Astringents both Internal and External mixt with Specificks, will do good.

But if it proceed from the long continuance of the Whites, then first give an Uterine Clyster, and afterwards the following Powder of *Simon Pauli*.

Take of leaves of Speedwel well Powdered, Seed of true *ammi* each half an Ounce, lesser Cardamom, choice Cinnamon each two Drachms, Sugar Candy a quarter Part of the whole Weight. When they are powdered, add to them a few Drops of Oyl of Cinnamon. The Dose is from half a Drachm to a Drachm.

So *theriaca caelestis* often used gives help; for by means of the volatil Salts the *Fallopian* duct is opened, whereby the Eggs in a Woman's Testicle, are fecundated and got out.

Among Externals a certain volatil Liquor made of mineral Spirits excels all, which may be used in one of our Instruments or *Glauber's*; or they that want them, may put it in a long necked Viol, the Mouth may be applied to the *Sinus Pudoris*, and the bottom may stand upon the Coals, and so the volatil Spirit may be received. By doing this not only the *tuba Fallopiana* is opened, but the Eggs that are too thick skinned, are made thinner and tenderer, so that they may be the better fecundated by the Seed, and the plastick Spirit appeased. Divers artificial Baths are good, especially one made with Ants. Natural Baths also are good, whether Sulphureous, Bituminous, Aluminous, or Nitrous.

We commend also *Infessus* made of Aromatick Herbs and Roots, and of Minerals. After a Bath or an *Infessus*, a Fume may be made of Gum *anima*, *tacamahaca*, Amber, *Benzoin*, &c. for instance;

Take of Gum juniper one Drachm, Berries of Juniper two Drachms, Frankincense, Mastich, Gum *anima* each half a Drachm. Mix them.

Or after Bathing an Infusion of some Liquor may be made by a Syringe. Or the aforesaid way may be used. Divers Pessaries are proper, especially such as are made of Volatils. Garlick with Oyl of Spike administred in form of a Pessary, is commended. Uterine Clysters likewise will be good; for instance, that of *Simon Pauli*;

Take of root of both the *Aristolochia* each two Drachms, Gentian, Zedoary each one Drachm, leaves of ground Ivy, lesser Centaury, *Aristolochia*, Rosemary each one handful, Baum, red Mugwort each half an handful, lesser Cardamom half an Ounce. Cut them, bruise them, and boyl them for an Uterine Clyster.

Or this, or the like Liniment, may be made to Anoint the Belly, from the *Pecten* to the Navil;

Take of Saffron, Spike, Mastich, *Styrax* each three Drachms, *Folium* one Drachm, Wax one Ounce, Oyl of Spike and Roses each what is sufficient. Mix them.

We refer these following to the empirical Class.

Julius Caesar Baricellus advises in Barrenness, that the Man and Woman, every Day Fasting, drink in the Broth of an old Cock, the Powder

Powder of the Stones of a Boar, or a Ram dried in the Shade.

Oswald Grembs says, it is an excellent expedient for Fecundity, if the Man and Woman Anoint themselves with Oyl of Ants.

Philippus Grulingius says, this following is a most certain Remedy, and will help Conception;

Take of the Testicles of a Ram prepared in Wine, and dried, the Womb of an Hare prepared, Mace, Cloves, Seed of true *Ammi* each two Drachms, Saffron one Drachm and an half, Pith of Hazel, Fiftick Nuts each six

Drachms. Bruise them. Boyl them in a Quart of Sack to a third. Take two Ounces after Meal, for three Days, on the fourth let the Woman lie with her Husband, and she will Conceive.

Dominicus Leo commends the frequent use of Peony Seeds, and Filings of Ivory Drunk in red Wine by a Barren Woman.

Some also account *Hippocrates* his Pessary as an *arcantum* to strengthen the Womb. It is made of Powder of the Loadstone with Woman's Milk.

Qqq 3

CHAP.

C H A P. VI.

Of Symptoms of Women with Child, that is, Nauseousness, Vomiting, Longing, Spasm, false Conception, Miscarriage, and Mola.

§. I.

FROM what was said before one may gather, that Man is made in, and of an Egg: for the bud is in these Vesicles, out of which humane Bodies sprout, to wit, when, upon the approach of the seminal Air of the Man, this bud is disposed to sprout, which disposition of the Egg is called Fecundation or Conception. For when the Man's Seed is ejaculated into the Womb, yea often into the very Ovary, the seminal Air exhales, gets into the Testicles, penetrates the Eggs that stick there, and is diffused through the whole substance. And if there happen to be but one of all the Eggs, in whose bud a Liquor is found disposed to ferment with the seminal Air, immediately that Effervescence commences, which must last all the Life long of the Body to be produced; and then a Woman is said to have Conceived, and an Egg to be fecundated. The Egg thus fecundated glides through the *Fallopian* ducts into the Cavity of the Womb, and then the quantity

of the humor encreases; so that in form of a bubble it indefinitely receives increase. Hence almost all Anatomists have observed the Rudiments of a *Fœtus* to be a Bubble. And what disturbances are raised about this act, the Symptoms of Women with Child do testify. For in the first days of Conception, there are loathing their Meat, Nauseousness, and Reaching to Vomit, strange Longing, Gripes, Loosness, Tooth-ach, *Vertigo*, Headach, Cramp, sometimes the Sciatica, often a false Conception and Abortion. About the middle of the time, the Poor big Bellied Women are afflicted with a Cough, Palpitation of the Heart, Swooning, Pain in their Loins and Hips, Bleeding at the Nose, *Hæmorrhage* of the Womb, &c. In the latter end of their time, they are troubled with stoppage of Urine, Strangury, Costiveness, breaking of their Bellies, and often instead of a Child they have a *Mola*. The chief of these Symptoms, and such as happen most frequently, we shall briefly examine as to their Causes and Cure.

§. 2. Definition of Vomiting.

Vomiting of Women with Child may be described to be, an Excretion of the Contents in Women with Child, arising from a Convulsive motion of the Stomach, while the animal Spirits, irritated by things bred or moved in the Conception, endeavour to expel what is troublesome by it.

Difference.

FOR some indeed are only troubled with a Nauseousness, according to the disposition of the Stomach, and aptitude or ineptitude of the matter to be voided. Some are troubled in the Morning, others in the Evening, some after Meal, some cast up all their Meat, others none, or but a little viscid matter; some when they have done Vomiting are better, others worse; some are ill at the very Moment of their Conception, others not till several days after, sometimes Weeks, and sometimes a Month or two, some begin to vomit in the beginning or middle of their time, others are troubled with it all the time they are with Child. But this happens according to the different Nature of the Subjects, the seminal Air, the disposition of the Eggs, Conception and time of Impregnation. Some Women with Child cast up Meat or Drink, chyle or cholerick Matter, others Phlegmatick Matter, and some pure Blood, as we read in *curios. Ephemerid. obs. 6.* a Case of a Woman, who from the first Month of her being with Child, to the last, every day vomited Blood,

sometimes florid, sometimes a little coagulated, about eight Ounces, without damage or any considerable harm, being otherwise in perfect Health.

§. 3. Description of Longing.

APica, Malacia, or Longing, is an Appetite of things impossible or Absurd, depending upon a peculiar Influx of the animal Spirits, and Regiment of the Plastick Spirit.

§. 4. Description of Miscarriage.

Miscarriage is one of the greatest and most frequent Mischiefs, that attend Women with Child, wherein Women are afflicted grievously, yea much more grievously than in a natural Birth. *Andreas Smitzius* gives this as a reason, Because unripe Apples cannot be pluckt without Violence. There are some of these poor Wretches, that, as *Heferus* in his *Hercules medicus* says, do protest they had rather bear ten Children, than Miscarry once. There are some that Miscarry as they walk, without going to Bed. I have known several such. An Abortion therefore or Miscarriage may be described to be, a preternatural and unseasonable exclusion of a Child, not then perfected, or of a shapeless Mole, with great Pain and Anxiety before the seventh Month, be it born alive or dead, arising from Causes which shall be hereafter mentioned.

§. 5. *Description of a Mole.*

A Mole, or a false Conception, is, a *shapeless, inanimate, and conglobated Lump, without Bones, or Bowels, hard and covered with a Pellicle, red and bloody on the inside, on the outside of a whitish red, of an Oblong round Figure, about as big as a Hen or Goose's Egg, Conceived in the Womb, resembling a Fœtus.*

Difference of a Mole.

They commonly make a Mole to be three fold: The lesser, and that about as big as a Hen's Egg, they call a *Sun Calf*, which comes away generally about the third Month. The second they call a *Moon calf*. And a Woman goes with a third a whole year, yea, sometimes all her Life time, as the writings of Physicians do testify.

The Descriptions of the rest of the Symptoms may be had before in their proper Chapters. Wherefore we will now consider the Part affected.

§. 6. *Part affected.*

AS for Vomiting in Women with Child, the Part affected, is, by the Universal agreement of Physicians, reckoned to be the Stomach; but how that is affected, is yet disputable amongst them. However it is beyond dispute, that Vomiting is caused by Conception, whether it be by Communication of the Coats or Nerves of the Stomach,

with the Nerves of the Womb, or by a Heterogeneous Ferment, communicated to the Stomach by the Womb.

There are some, that lay the fault upon the Spirits being occupied about the Formation in the Womb, deserting the Stomach, and the business of the first Digestion, being thereby deprived of a vital Character, whereupon Crude humors are bred and provoke the Stomach. Some say it is caused by the stoppage of Impure and Corrupt Menstruous Blood. For it is certain, that in a Conception not only the Blood and Spirits, in regard of their Particles, are much altered by the Conjunction of the Spirituous genital Liquor, with the Woman's Egg, or Vesicle; but the particular Effervescence, Turgescence, and otherwise customary Evacuation of the Heterogeneous Particles in the Blood, if there be any, do cease. So the Part affected in Longing is the Brain: And the Womb is reckoned the Subject of an Abortion and Mole.

§. 7. *Diagnostick.*

HAVING done with these things, we will fall upon the Diagnostick, which we reckon must be taken from the Patient's Relation, not neglecting the concomitant Symptoms of this Disease. But since Patients do not well know, whether they be with Child or no, it will be the Part of a Prudent Physician to discern, whether Vomiting proceed from gravidity or from some other Cause. In these things the Books of Practitioners are plentiful; but in our Opinion, at the very first a Physician can-

cannot tell whether Vomiting proceed from being with Child or no. For oftentimes Vomiting accompanies false Conceptions. Moles, divers Animals in the Womb, and a Dropsie often deceives, under a notion of Impregnation. Tumors, Abscesses and Wind do often extend the Belly. Concerning which you may find many remarkable Observations in *Ephemerid. Germ. Ann. 1. obs. 1.* and in other years.

§. 8.

THE Signs of Longing are, when Women with Child desire absurd things, such as are otherwise abhorrent from Nature, such as raw Flesh, and Fish, Eels, Frogs, (an instance whereof I knew) Tar, Chalk, Coals, and a thousand other things. So a Woman bit out a piece of her Husbands Arm. And *Nicol. Tulpius obs. med. l. 2. c. 24.* has an instance of a Woman that eat four hundred Herrings. I knew one that eat Filings of Steel, and another that longed for Lead.

The Signs of an actual Abortion are manifest. It may happen from the first moment of Conception, till the beginning of the seventh Month. It often happens about the end of the third Month; but it falls out sometimes both before and after that time. Before the tenth week after Conception Exclusions are scarce reckoned Miscarriages, because then scarce any Rudiments of a *Fœtus* appear nor any beginnings of a *Placenta*: Wherefore then it may rather be accounted a *Mola*; for unless the *Fœtus* appear in the Body of the *placenta*, it cannot be allowed to be a true Conception, and therefore cannot be a Miscarriage. Now

the Signs of an imminent Abortion, are various, and often uncertain, because it comes upon Women unexpected, and on the sudden. But you may probably know it, by the foregoing Causes already mentioned, which are able to produce a Miscarriage, also by sudden shivering and shaking, attended with a little Heat, by Nauseousness, loss of Appetite, great Thirst, Pain of the side, Loins, Lassitude of the whole Body, Fainting, Palpitation of the Heart, stinking Breath, Fright, Grief, and such things. By a dull Pain in the Womb above the *Pubes*, less desire to Venerie, Cold of the genital Parts, &c. It is also evident by the *Excreta*, as if a Woman with Child have her *Menstrua*, or an encrease of the Whites, if the colour of the Body change, especially the Face. There are some who only by the colour of the Face will foretel an Abortion. Besides, there are some particular Signs, as the Detumescence of the Breasts, or abundance of Milk running from them. To which you may add, a frequent custom of Miscarriage: for many that are used to it, Miscarry upon any slight occasion.

§. 9.

ALL the Signs of a true Conception, happen in the Conception of a Mole, the *Menses* cease, the Appetite is depraved, there are Nauseousness and Vomiting, the Breasts Swell, and about the fourth Month, there is some Commotion of the Womb, like quickening, which endeavours to eject the Mole. And if it be not ejected, the Belly Swells, and other Symptoms arise.

§. 10. Diff.

§. 10. *Difference.*

BUT it is distinguished from a true Conception, in that, in a Mole no Milk can be squeezed, out of the swelling Breasts, as it may in a true Conception. In a Mole also there is no lively Motion felt, as from a Child, but it rolls only from one side to another like a Stone, with much trouble. It is distinguished from a Dropsie in hardness. In a Mole indeed the Belly Swells, but the Arms and Legs are Lean. Besides, it is the property of a Mole, that by the pressing of the hand, it may be thrust from one side to the other, which cannot be in a true Conception. Lastly a Woman, that goes with a Mole, perceives a violent Commotion in her Belly, before the third Month; but in going with Child, rarely before the fourth.

We have already treated sufficiently of the Signs, Causes and Way of Cure of the rest of the Symptoms in the Cure of Diseases of the Head, Stomach, &c.

§. 11. *Cause of Nauseousness and Vomiting.*

THese things premised, we will enquire into the Causes of the Symptoms in Women with Child. The Galenists say, that Vomiting arises from the stoppage of the Menstruous Blood, which corrupts, sends out Fumes, and so irritates the Stomach.

Sylvius says, That the whole time of going with Child, the Womb is so contracted and cor-

rugated, that the Blood standing in its Vessels and Caverns, is repelled upwards towards the rest of the Mass, that this Blood is altered in the Womb, from the alteration whereof several bad humors arise. But, according to him, the Bile together with the Pancreatick Juice, exerts its Malice, and proves the Cause of Nauseousness and Vomiting, and also of Loathing and Longing.

For such Women, as have a Fluid, moveable and sharp Bile, they are not only troubled with Nauseousness, but with Vomiting also.

But such as have an Austere, Pancreatick Juice, they are more troubled with Nauseousness than Vomiting. And he ascribes the Cause to Exhalations raised in the *Duodenum*, which are carried to the Stomach, and irritate and tickle it, and sometimes corrode it. He also derives the rest of the Symptoms, as Swooning, *Vertigoes*, Lifflesness of Body, divers Fevers, Leanness, Cachexy, shortness of Breath, from the vitiated Effervescence of the Bile and Pancreatick juice, by reason whereof, he says, Exhalations arise to the Stomach, and there cause Fits both Slight and Violent, and other Symptoms.

§. 12.

WE reckon the Imminution of Blood and Spirits by Conception is the Cause, why Vomiting and Nauseousness come upon big-bellied Women. For it is very evident, that the Spirits of our Body can by unanimous consent affect one another. So the plastick Spirits quartering in great Troops

Troops about the Womb, by reason of affinity may easily irradiate the Stomach, and do often spasmodically evert it: Nauseousness, Loathing, Fainting, Weariness, and other Symptoms, familiar to Women with Child may also be deduced from the disorder of these Spirits. And so the new bud, Sprouting in the Womb, may easily vellicate the Membranes common to the Womb with the Stomach, and spasmodically affect them, whence often proceed, Nauseousness, Vomiting, &c. as one may see in Vomiting, arising from the Stone in the Kidneys. Many crude Salts also (which breed through the retention of the Menstruous Blood) may be communicated by the Blood, Serum and other Humors, to the Stomach, which irritate the Fibres thereof, and so are the Causes of many mischiefs, especially of Nauseousness and Vomiting. And a depraved disposition of Blood may contribute its share remotely; therefore they that have a Chaco-chymick and foul Body, are most prone to these Symptoms. And so does tenderness of years, because their Bodies are not sufficient for this action. A sedentary Life contributes much: wherefore this Disease is not so familiar to Country and Laborious Women.

Preternatural things likewise, do much promote this Disease; through Ill conformation, Solution of Unity, &c. So any Viscus not doing its duty, and corrupting its proper Aliment and Ferment, may transmit such hostile Particles to the Stomach. And sometimes the Diseases of the Husbands, especially such as are Subject to Vomiting, may contribute something,

since that may very well be done, by Communication of spirituous Particles in the Seed.

What Causes may be assigned from Non-natural things, we shall give you, when we treat of Diet.

§. 13. Cause of Longing.

[Question not but Longing may be Caused by an Acid, communicated by the Mass of Blood, or other humors to the Stomach: and I have observed it in several Women who have not been with Child. This Foreign Acid Ferment, therefore by affecting the Nerves of the Stomach, occasions an unusual Appetite therein, namely of things that are not Aliment, such as Stones, Chalk, Corn, Earth, Lime, &c. because by taking of these things the Acid is saturated.

Now the reason why Women with Child are troubled with this Disease, is, because the Fermentations of the Blood are much altered by the Spirit of the Man's Seed, and a Foreign Acid Ferment is communicated to the Stomach: And so it happens, that these Fermentations do much alter the Thoughts and Appetite. But there is one reason especially, because Women (who at all times do more follow their inclinations than Men, and whose Souls do not curb such thoughts) think, that when they are with Child they may do any thing. I find even my self, that I have a strong desire to some one sort of Meat, and this can proceed from nothing else, but that some peculiar Ferment does in some certain manner affect the Nerves, so
tha

that such a Meat is represented to the Soul. Most certain it is, that some peculiar motion is made in the Nerves of the Sixth Pair, which is the Cause of Perception and Depravation of judgment.

§. 14. *Cause of Abortion.*

ABORTION, according to the *Galenists*, arises either from excess of Blood, and a too great Afflux of it then to the Womb, or from defect of it in the Mother to nourish the Child, and from other remote Causes, which shall be hereafter mentioned.

§. 15.

SPLETHINS says, the Cause of Abortion is either a *Plethora*, by reason whereof the *Fœtus*, sticking but loosely to the Womb, is often expelled, when abundance of Blood seeks an Outlet, and finding it in the Womb, that cannot bear its Violence. He doubts not likewise, but Abortion may happen from want of Blood. Among external Causes he blames, too violent motion of the Body, especially Dancing, Riding, reaching out of the Arms, because by the motion the Child in the Womb is shaken, whose Bands (that is, the *Placenta* sticking to the Womb) if they be loose, are presently unfastned, and broken, parting from the Womb, the Child and Secundine forcing a way out. He also proves both by reason and experience, that Abortion is often caused by the Mothers falling. So daily experience shows, that it is caused by a great Fright,

from care of Mind, sadness ensuing, and from Anger: For in Anger, the Soul is strangely disturbed, and all the Actions both Animal and Natural are much hurt, whereupon no less but a far greater Perturbation of all the Functions in the *Fœtus* does follow, which among several other things may occasion an Abortion. He also blames excessive Watching, inasmuch as it waists the strength, and so the Child by degrees waists; and he finds fault with excessive heat of the Air, a violent Loosness, bloody Flux, and any notorious loss of Blood.

So, according to him, hæmagogue remedies may occasion Abortion, if either Imprudently or Maliciously they be given, during gravidity: Such are plentiful Venesection, especially in the Foot, violent Purgers taken in great quantity, and especially sharp ones.

Thus likewise the excessive use of Spiritous things, inasmuch as they dissolve the whole Blood, and facilitate the Flux of it by the Womb, may easily cause Abortion; also the bad internal conformation of the Mothers *Abdomen* is apt to cause Abortion. He refers hither a Mole, or a Living and a Dead Child being together in the Womb; the one forcing the miscarriage of the other.

§. 16.

WE do judge the Causes of Abortion lie both in the Mother and the Child. In her as she is miserably afflicted by the Non-naturals, and the Preternaturals acting in a various manner. In the Child, inasmuch as it either of it self, or by accident suffers some great

great mutation, and through a bad and preternatural disposition endeavours its *exit*. So the Proximate Cause lies sometimes in the Womb, when it some way or other, either by a *Plethora*, by other inconvenient things, or by an excessive influx of animal Spirits, is irritated, and sometimes spasmodically contracted, to the exclusion of what is contained in it: for as in Vomiting the Stomach is offended, so in Abortion is the Womb to the Exclusion of the *Fœtus*.

Also any grievous Disease of the Child, whensoever it arises, may cause Abortion, inasmuch as the Child may then easily be excluded by the Mother who is well. So it often happens, when the mothers *Abdomen* is not rightly constituted, either tough or hard, not enduring a convenient Distension, that the *fœtus* is excluded. To these may be added a bad Conformation of the Womb, if the carnos Subſtance be either too thick, or callous, if the capacity of the Womb be too little, so that it cannot sufficiently be extended, or if there be too great a laxity in the Womb; all these things may cause Abortion.

There are other Causes also of Abortion, when the Mother has lost her Strength by a Disease either present or by-past, to wit, a Fever, Dropsie, *Scirrhus* of the Womb, *Erysipelas*, Inflammation, Abscess or Cancer, whereupon I question not but the Child by content is strangely disaffected.

Sneezing, Coughing, Vomiting, Shouting, when they are frequent, and violent also, endanger Abortion, inasmuch as the strength both of the Mother and Child is wasted thereby, and the Muscles of the *Abdomen*

being strained do press upon the Womb, and so do often force an Exclusion of the *Fœtus*, though Immature.

And so a Mole, sticking faster to the Womb than the Child, with its weight presses downwards, and sometimes forces away the true Child.

To the Procatarctick Causes, which much afflict the Mother, and by consequent likewise afflict the tender *Fœtus*, we refer those things, that Physicians call the Non-naturals.

And in the first place the *Air*, which if its heat be too violent either by the Sun, Fire, Bath, or Stove, the Womb may thereby be stimulated to the excretion of the conceived *Fœtus*.

The abuse also of *Spices and Spirituous things*, and of *Menagogue Medicines*, is very prejudicial, all which things contain in them volatile Salts, which may easily put the Blood in fusion, and disturb the animal Spirits, and so are apt to cause Miscarriage. In this case Strong and Inebriating Drink is to be condemned. Wherefore the Angel, *Judg. cap. 13.* says to *Manoah's Wife*, who bore *Sampson*, *Behold now, thou art Barren, and bearest not: But thou shalt conceive and bear a Son. Now therefore beware, I pray thee, and drink not Wine, nor strong Drink, and eat not any Unclean thing.* But let Women especially forbear Spirit of Wine; for many sad examples show, that this has caused Abortion. Sometimes fasting also has occasioned it, and excess in *Meat and Drink*. And so has the desire of *Meat*, which could not be procured.

Violent Motion also, as Dancing, Riding, either on Horseback or in a Coach,

Coach, or any violent jogging of the Body, lifting heavy burthens, a bruise of the Belly, as I had an instance not long since, may easily occasion Abortion, inasmuch as the bands of the *Fœtus* in the *placenta* are made loose, and the tender *Fœtus* is shaken in the Womb, so that the bands at length are forced to give way, and let go the Child. So all excess of Blood may occasion Abortion, while it flows more than needs to the Womb, presses the *Fœtus*, and irritates the Fibres, so that afterwards the tender *Fœtus* is forced away together with the Blood. A notorious Hæmorrhage of any Parts, any excessive Flux of the *Menstrua*, and a Dyfentery or Loosness, are able to cause Miscarriage.

Too frequent *Venery* is naught, inasmuch as it makes Lax the Neck of the Womb and other parts, and the Conception already made is abhorrent of it; so that hence Abortion does often proceed. And so the Vessels are made too Lax, by the Flux of the cervical Liquor.

The Passions of the Mind act their Parts too, inasmuch as they disturb the animal Spirits, put the Womb often into Convulsions, and so expel the conceived *Fœtus*. Among these are Anger, Sadness, Frights at terrible Objects, and on a sudden, which often move the Child, and indanger the Mother. Any violent sound has the same effect, as of Guns and Thunder: So I knew a Woman at *Scomberg*, who in Summer time, if her Child were not seven Months gone, always Miscarried upon hearing Thunder. Any Strong or Sweet smell, as of Amber, Roses, Musk; or ingrateful, as of a Candle's Snuff,

Horns, Hoofs, &c. are apt to Cause some Women to Miscarry. Women do ill also in Lacing and Busking themselves too strait, to keep their Bodies slender, and in shape. For *Hieronymus Mercurialis* observes, that several have made themselves Miscarry by the straitness of their Cloths. This straitness so straitens the Vessels, that it hinders the Circulation of the Blood, and so frequently occasions Obstructions, Tumors, Stitches, Abscesses, Ulcers, Consumption, shortness of Breath, &c. Let Women therefore have a care how they pinch themselves and let them wear such Cloths, as may be least hurtful to themselves or their Child.

§. 17. Cause of a Mole.

THE Ancients material Cause of a Mole is the vitious Seed of both Parents, which they held got into the Womb in the Act, and by the greediness of the Womb is conceived and retained; and by the heat of the Womb hardened. Into which matter, they say, the Menstruous Blood does flow by the *Cotyledones*, and it is nourished and encreased by that Blood.

§. 18.

Paracelsus says, That a Mole is an *abortivum quid* of the Womb, generated in the Womb.

Some place the Cause of this vitious and abortive Conception, in an alteration of the Seed, and in the deficient activity of the Masculine especially.

§. 19.

AND ~~we~~ say, the Cause of a Mole is the Coagulation of the virile Seed, or only of Blood and a sharp liquor in the Womb, caused usually by an Acid.

§. 20. Prognostick of Vomiting.

Vomiting in Women with Child is seldom dangerous, especially upon an empty Stomach, and without any great disturbance, since the Plastick Spirits are careful of themselves, and only expel that which is already separated, and not fit for the Nourishment of the Child. But be the matter ejected what it will, it is often a comfort both to the Woman and the Child. Hence *Nicolaus Rochæus de morb. mulier.* says, That in the fourth Month long-ing ceases, partly because the vitious Humours are carried off by Vomiting. *Hæferus in Hercule medico* l. 7. c. 3. says, That such Women have very fair Children, because they are nourished with the matter of Blood depurated by Vomiting. But it portends danger, when it comes immediately after Dinner or Supper, carrying off all the Meat, that should turn to Nutriment for the Child, when it exceeds in quantity, or in straining and Motion; for it, as well as any other violent Excretion, may produce Abortion. Yet I know a Woman, that is Mother of eight Children, who for the first three Months cannot eat one Mouthful, but is forced to sustain her self with Drinkables, and often Vomits them up too, and besides this Vo-

miting, when she is with Child, she has a great sence of heat in her Throat and Stomach.

§. 21. Prognostick of Longing.

AS to the Prognostick of Long-ing, there is no great danger in it, unless it should last long, which might encrease the Cause, or the Woman should give way to it unreasonably, and long for absurd things, which might occasion several Obstructions and Corruptions of the Humors. But sometimes if the Humor be carried in abundance into the Stomach, and be very sharp, it may cause Heart-burns, which may occasion Swooning, and sometimes, but very seldom Death. Women are usually rid of their Longing towards the fourth Month of their time. If it continue longer, it is observed to be dangerous. It is good, if they long for sower things; bad, if they Long for absurd things.

§. 22. Prognostick of Abortion.

ABortion, though of it self it be troublesome enough, and weakens Women more than Labour, is often also the Cause of divers other Diseases, Barreness, Inflammation, Ulcer, *Erysipelas* of the Womb, &c. especially if it happens at the latter end of their time, at which time, because the *Fætus* is big, it is with difficulty excluded the Womb, as an unripe Apple, which cannot be pluckt without

without violence; and it occasions great Hemorrhages, which are attended with Swooning, *deliria*, and Convulsions. Hence *Aretæus* testifies, that he never saw a Woman recover, who after Abortion fell into Convulsions. Miscarriage is more dangerous of ones first Child, than in one that is used to it. Women of a very tender Constitution are in greater danger than fat Women. Fevers, Palpitation of the Heart, Heart burn, and other bad Symptoms, make the Case more dangerous.

§. 23. *Prognostick of a Mole.*

A Mole is Salutory, if the Womb throw it out as an useless Burthen, and prejudicial to its self. No Creature, except a Woman, conceives or bears a Mole, as *Aristotle* testifies.

§. 24. *Diet in Vomiting.*

NOW we proceed to the dietetick Cure, which consists in the right use of the six Non-naturals. In Big bellied Women's Vomiting the *Air* especially must be temperate. In Vomiting immediately after dinner and Supper, it is best to eat a little and often in a day of something that is good, so that both the Mother and the Child may get some Nutriment. Peptick Powders are good with ones *Meat*. Let the Patient according to the Nature of the Cause, drink cold Water: for some are so averse from Wine, that they cannot endure to

hear of it, because they find a Burning in their Throat after it. But some, if there be an Acid, may be allowed Wine either Sack, or Red, in which Gold, Steel, or red-hot Flints have been quenched. We allow of Meats easie of Digestion, Flesh of Birds, roasted rather than boyled, Pears, Quinces, &c. We have known fat things do harm. How other things may be directed and the use of them managed, will appear from what shall be said hereafter.

§. 25. *Diet in Longing.*

IN Longing the desired Food must sometimes be allowed, if it can be done without danger of Life, the mind must be fortified with divers Reasons, and must be diverted from these and other improper things.

§. 26. *Diet in Miscarriage.*

IN a Miscarriage the *Air* must be temperate, and without Heat: If it be over hot, it must be amended by strewing cool things on the Floor, and by holding grateful Scents to the Nose. Any ungrateful Scent is hurtful. A little *Meat* must be given, easie of concoction, the Bread must be of Wheat dipt in Juice of Berberries, Pomegranate Wine, Quince Wine, &c. Forbear all salt, and sharp Meats, for I have known too great use of Mustard occasion Miscarriage. Avoid Acids, over-moist things, and Aromatics. Give Broths tem-

tempered with Sowre things. Avoid Drunkenness, either with Wine or its Spirit. Sleep and Rest are good. The Mind must be serene and quiet. Anger and Fright are as bad as Death. We mentioned the rest among the Causes.

The same things in a manner must be observed in a Mole.

§. 26. Cure of Vomiting.

NOW we will proceed to the Pharmaceutick Cure. In the Vomiting of Women with Child, the Galenists, and chiefly *Riverius*, commends Venesection. He has these words. "And Experience has taught, that Vomiting, which afflicts Women with Child in the first Months of their Time, is exasperated, by Purging and much relieved by Bleeding, yea, quite removed, if it be repeated every Month till the Symptoms cease. He also advises several Stomachicks, which we have already mentioned in the Chapter of Vomiting, c. 1. l. 3.

§. 27.

AND so ~~vultus~~, when an impure and rancid Blood, ever and anon supplying new Stores for incongruous matter to the Stomach, does cause an emetick Disposition, testifies, That Vomiting in Women with Child is cured by frequent bleeding. *Pharmaceut. rational. Sect. 2. cap. 3.* He breaths a Vein, not in the Foot, but in the Arm. And he commends divers Stomachicks mentioned in the third Book.

§. 28.

Plinius commends moderate austere Medicines, such as Plantain, Houseleek, Myrtle, Knot-grass, Bitort, Avens, red Roses, &c. crude Alum and all the *terre Sigillata*. Among chymical things he commends Spirit of Alum, Vitriol, *Spiritus Salis dulcis*, &c. For fixing a volatil Bile he uses subaustere and acid Medicines, but especially Sauces, to which end he esteems volatil oily Salts, which promote the Fermentation of the Food in the Stomach.

But if vitious humours offend not only in Quality, but in Quantity, he says they must be diminished by convenient Purgatives; but he slightes sharp Purges, and therefore strong ones; and admits only of Lenitives. He also commends Opiats and Narcoticks in this Case, as things that both temper the Acrimony of the Humors, correct their vitious Effervescence, and dull all Sense, and so stop all excessive Vomiting sufficiently. To this end he gives *Laudanum Opiatum*, Treacle, and *Requies Nicolai*. And so he uses divers Externals in Form of Oyls, Plasters, Cataplasms, Powders, Bags, &c.

§. 29.

IN the Vomiting of Women with Child, according to our Judgment we ought to proceed cautiously, lest we do more hurt than good. This is *Platerus* his Caution, and must be carefully observed. If Women with Child be troubled with Vomiting, such Medicines

R r r

must

must be omitted as incommode them: for the vomiting that we now treat of, often requires no Cure; and so the Physician by doing nothing does well, when things that should be discharged are discharged by Nature, and Women find no Inconvenience from it: for there is no Loss of Strength, if they are better after it; especially in morning Vomit, which provident Nature procures for her own Conservation.

But the Vomiting that manifestly hurts the Body, weakens the Child and the Mother. That which is excessive and threatens Danger, lest it should cause Abortion, indicates its Removal, and sometimes Mitigation, which the Physician does by checking the Motion, by diminishing, tempering, altering, and enervating the irritating Causes; by strengthening the Plastick Virtue, and by quieting the Spirits. And when he would do this, he fetches his Remedies from the common triple Store-house.

In Chirurgery, the first that offers it self, is, Bleeding, which we do not allow to be administered, unless in the middle months, for fear of miscarriage, but instead of it we allow of cupping and scarifying. Issues, Leeches, and Blisters deserve Praise in this Case; and rubbing the Arms and Legs, after Meat especially. This Rubbing is commended by *Mercurialis de Morbis Mulier. l. I. cap. 4.*

From Pharmacy Vomits are taken; but because they are vexatious to Patients, they may be omitted; yet I gave of *Tartarum emeticum* one Grain, with Salt of Wormwood two Grains, and *Theriaca Caelestis* one Grain, to my

own Wife, when she was three Months gone, with good Success. Gentle Purgers and Abstergers of the Ways may be subjoyned. But it is safer to proceed with Absorbents, especially if Heat be joyned with it, the Dose whereof the Quantity of the morbid Acid must determine, and the Quality or corrosive Acrimony, that vellicates the Fibres of the Stomach, as it is stronger or weaker.

Among appropriate Absorbents, beside their general Use in imbibing a morbid Acid, there are some that have a specifick property, as Hazle. Mistletoe has an antiepileptick Virtue, Ash Bark a diuretick, *Winter Bark* an antiscorbutick, Martial Medicines a cachectick, Jovial and Saturnine an antihectick.

In this Case therefore these things are proper, Crabs Eyes, Harts-horn, coats of Hens gizzards, Unicorns horn, *terra Cateshu*, Nutmeg, Ivory, Martial Medicines, Bole Armenick, adding Oyl of Cinnamon, Mint, &c. Astringents also are good, such as Tormentil, Bistort, and *Terra sigillata*. And things which refresh the Spirits, such as Castor and all Balsamicks, especially *Tinctura Terræ Japonicæ* is an excellent Medicine in this Case with Essence of Opium. Here is a Receipt for Vomiting, where there is also Heat;

Take of Crabs Eyes prepared, Chalk each one Scruple, Nutmeg half a Scruple, Harts-horn prepared one Scruple, *Theriaca caelestis* one Grain. Mix them. Make a Powder, and divide it into two equal parts.

And

And if the Heat be great, these Tablets following are proper;

Take of *Species diacretæ Minschti* six Drachms, or of Chalk two Drachms, burnt Ivory one Drachm, Fossil Unicorn, Crabs eyes prepared, red Coral prepared each two Scruples, Nutmeg one Drachm, with a sufficient quantity of Sugar make Tablets.

Powder of Brick, Spirit of Mastich, and of Vitriol of Mars are generous Remedies;

Take of Cinnamon water made with Quinces, Mint each one Ounce and an half, Spirit of Vitriol of Mars twenty five Drops, Mastich two Drachms, *Laudanum opiatum* one Grain, Syrup of Mastich or *de Agresta* six Drachms. Make a Mixture to be taken by Spoonfuls.

If the Vomiting be like to endanger Miscarriage, you may mix Opiates with other Medicines. Our Hyfterick *Laudanum* given in Form of Pills is an excellent Remedy: for these Pills tarry long in the Stomach, are grateful to it, and so exert their Virtues the better. All Balsamicks are good, and Chocolate, Balsam of Peru, which are mentioned before in Vomiting, especially volatil Oyly Salts joyned with Opiats, *Laudanum cydoniatum Hoffmanni* and *Theriaca eælestis* are good. Curran Wine taken by Spoonfuls often does the Business.

Loathing of ones Meat and Nauseousness are removed by the

same Medicines in a manner, here Balsamicks are more proper.

Externally Plasters, Unguents, Balsams, Cataplasms, and Bags may be applied both to the fore and back part of the Stomach, according to *Avicen's* advice.

If there be a Loathing of Meat, *Oleum Cratonis* will be good applied to the Pit of the Stomach. Here also *Emplastrum stomachale Cratonis cum tacamahaca, de crusta Panis, de Caranna cum Balsamo Peruviano*, a Cataplasm of Leven, Oyntments of Oyl of Mastich, Nutmeg, Quinces, Wormwood, Orange Pill, and a thousand other things will be proper. *Louyse Bourgeois de obstetric. l. 4. c. 30.* commends the applying of an Ivory Plate to the Stomach as a certain Experiment.

Among Empirical Medicines these following excel.

Johannes le Bon in therap. Puerper. p. 6. highly commends a Decoction of the larger Chamomil.

Herlicius de cura gravidar. orders in a hot Cause to put the Hands and Feet in cold water; and in a cold Cause in hot.

Camerarius commends Quince Wine.

Forestus commends the eating of Services.

Ludovicus Mercatus tom. 2. l. 3. c. 11. highly extols this following;

Take of Aniseeds, Citron Pill each one Drachm and an half, Powder of red Roses, red Coral, prepared Pearl, *Electuarium de Gemmis*, each one Scruple, Sugar what is sufficient. Make Tablets with Steel water.

He also commends Bole Arme-
nick or *terra sigillata*, given with
Sugar of Roses.

§. 30. *Cure of Long- ing.*

THE *Salentis* bleed in Wo-
men's Longing; but spa-
ringly. Then they give a gentle
Purge, and divers Strengtheners of
the Stomach, according to the
Nature and Disposition of the Pa-
tients Body.

§. 31.

Splivus, when Women with
Child long for a large Quanti-
ty of good Meat or Drink, is for
allowing it them. But if they long
for unusual things, and they will
not be satisfied, they must be per-
swaded by Reason. He commends
aromatick and spirituous things, as
they restore the animal Spirits. But
above all he commends Tincture
of Cinnamon, made with rectified
Spirit of Wine: and for such as
cannot bear the use of that, they
may take Nutmeg or Cloves.

§. 32.

I Think Longing may be cured
very well with Medicines that
imbibe an Acid, that check the vi-
tious Effervescence in the first
Wayes, and that carry them off by
Epicrasis. Therefore if Women
long for Chalk, Lime, Sand, or
such things, if they are not exces-
sive, they may be indulged: for it
does them more good than hurt.
But if their longing for absurd

things last long, and they grow worse
you may very well have Recourse
to Precipitants, which given in a
due Dose do help longing Women
by Saturating the Acid in the Sto-
mach, that is of a peculiar Taste:
For by these Imbibers alone I have
cured a Longing and a great heat
of Stomach withal. *Frid. Hoff-
mannus* highly commends Magi-
stery of Pearl. But they must not
take too much of these Precipitants,
otherwise by avoiding one Mischiefe
they fall into another, as loss of Ap-
petite, shortness of Breath, Ca-
chexies, slow Fevers, and innume-
rable other Evils. Therefore Maids
do ill in eating Chalk and other
Precipitants, to make them look
Fair, because such things hinder
the first Digestion and all that de-
pend thereupon.

With the foresaid Caution there-
fore Specifick Absorbents are proper;
such as Chalk, burnt Harts-horn mixt
with Nutmeg, and with far better
Success if they be made up into an
Electuary with Conserve of Syrup
of Oak-buds, I have often done
the Business with *Oleum tartari
per deliquium* alone, giving a few
Drops frequently. *Hoffm.* won-
derfully commends philosophical
Spirit of Vitriol, and a Decoction
of Chamomil, which he prefers be-
fore all other Medicines. I have
experienced the following Medi-
cines;

Take of Orange Water drawn
with Sack, Rosemary each two
Ounces, Essence of Orange Pill,
Oleum Tartari per deliquium
each one Drachm, Syrup of Ci-
tron Pill, one Ounce, Make a
Mixture, and take a Spoonful at a
time. Or,

Take

Take of Water of Mint, Rosemary each two Ounces, *Aqua Vitæ Matthioli*, Tincture of Cinnamon each one Ounce, Spirit of Sal Ammoniack twenty Drops, Oyl of Mint eight Drops, Syrup of Mint one Ounce. Mix them. Or,

Take of any volatil oily Salt one Ounce. The Dose is thirty Drops in Muscadine or Canary or any other generous Wine. Or in Form of an Electuary.

Take of conserve of Mint, Rosemary Flowers each one Ounce and an half, Orange and Limon Pill candied each half an Ounce, Powder of Cardamom, Cubebs each three Drachms, Oyl of Mace two Drops. Mix them. Make an Electuary. The Dose is the Quantity of a Chestnut, three or four times a day.

Decoctions of *guajacum*, *Sassafras*, *China*, and *Sarsa* are good. If the Appetite be excessive, then we must abstain from Acids and keep to Spirit of Sal Ammoniack. Starch also and pultaceous things are good in this Case.

§. 33.

AMong the Empirical Medicines take these following. If Women have a depraved Appetite, *Ægineta* commends the Drinking of old and odoriferous Wine, and water of Shepherds Rod, especially after Meal. He also commends Dill steeped in Wine.

Brendelius says, that Starch cures Longing.

Jul. Cæsar Claudinus commends this following;

Take of Mustard half a Scruple, Pigeons Bones burnt and powdered one Drachm and an half, Seed of Purslain one Drachm, Cinnamon two Scruples, juice of Quinces two Ounces, white Sugar three Ounces. Mix them in a double Vessel over the Fire. The Dose is half an Ounce every other Day in the morning.

Job. Rhodius Observ. Medic. Centur. 2. pag. 97. has observed Longing to be cured by the Flux of the Hemorrhoids.

Schroder commends sowre Pomegranates and Vine leaves.

Trotula says, If a Woman with Child long for ill things, give her Beans with Sugar.

Arnoldus Weikhardus uses the following external Medicine;

Take of Citron Pill, *Acacia*, *Calamus Aromaticus* each half an Ounce, Leaves of Turkish Bawm two handfuls. Boyl them in Wine and bruise them and put to them, when bruised, of Oyl of Nard, and Mastich each a like Quantity. With the Crumb of brown Bread make a Cataplasim, and apply it hot to the Stomach.

§. 34. Cure of Abortion.

IN fear of Abortion the Ancients let Blood, and where there is a notable Cacochymy, repeat gentle Purges; in the middle Months especially, and now and then all their time of being with Child they give divers Astringents and Strengtheners to prevent Miscarriage, several of which were described in the immoderate *Menses*. When they are not with Child, they say, all ill dispositions of Body, which used to cause Miscarriage, must be removed; such as Plethory, Cacochymy, and peculiar Diseases of the Womb, for instance, Intemperature, Inflammations, Ulcers, &c. and divers external things, which you may see in *Riverius c. 17. de Abortu*.

§. 35.

Sylvius varies his Cure, according to the Causes. In a Plethory therefore he orders diminution in time, sometimes immediately after Conception. Excessive motion of the Body, Falling, Frights, too much Watching, excessive heat of the Air, *Diarrhæa*, Dysentery, and Hæmorrhage, some of them must be forborn and others cured. They must have a care of all enormous letting of Blood, and violent Purgers, but especially of such Medicines, as used to promote the *Menses*. And all strong drink must be avoided.

But Abortion, which proceeds from a bad Conformation of the Mo-

thers Belly, or from another Child, in his Opinion, can scarce ever be cured.

When part of the after burthen remains in the Womb after Miscarriage and causes a continual efflux of Blood for some Months, he has often had success in the following Apozem, by giving three Ounces of it twice or thrice a day;

Take of root of Bistort two Drachms, leaves of Majoran, Penny-royal each one handful. Boyl them in Water, and white Wine what is sufficient. In twenty Ounces of the Colature, dissolve of Syrup of Mugwort two Ounces, Cinnamon Water half an Ounce. Mix them.

§. 36.

IN our Opinion, to prevent Abortion (for sometimes it cannot be prevented, as appears from discouraging the Causes) first of all the humors must be reduced to their Natural state; and if there be any disorder in the animal Spirits, it must be rectified. If the Woman be Plethorick, she may be let Blood about the middle of her time. All diseases in the Womb, that are apt to Cause Abortion, must be cured before. The Medicines that are given, must strengthen the Mother, the Child, and the Plastick Spirit. To which purpose kindly Balsamicks, Aromatick, Spirituous things, and gentle Astringents are good, such as tincture of Corals, *terra Japonica*, *liquor stypticus balsamicus*, *tinctura antiphthisica*, Magistery of Coral, Ivory, *Specificum cephalicum*, Nutmeg, Bistort root,

root, Crab's Eyes, Cloves, Mace, Cinnamon, *aqua epileptica, vitæ mulierum, cordialis H. Saxon.* water of Cinnamon, and its tincture, and other things. We will give you some receipts. If therefore it be feared, that a Woman may miscarry upon a fright, it will be proper to take frequently a spoonful of the following liquor ;

Take of *aqua epileptica Langii, vitæ mulierum* each one Ounce and an half, Magistery of Coral, *Specificum cephalicum*, emerauld prepared each half a Scruple, Syrup of Cinnamon six Drachms. Mix and give it. Or,

Take of prepared Ivory, *pulv. marchion.* Powder of Pearl each half a Scruple, *trochisci de spodio* six Grains, distilled Oyl of Nutmegs two Grains. Mix them. Make a Powder. Divide it into two equal parts for twice taking.

Sennertus has the following Powder ;

Take of Magistery of Coral one Drachm, prepared Pearl half a Drachm, shavings of Ivory one Drachm, Mastich half a Drachm, grains of *Chermes* one Drachm, *manus Christi perlat.* two Drachms. Mix them. Make a Powder.

If Abortion be feared from Swooning, this following will be proper ;

Take of *aqua cinnamomi boraginata, cordis cervini, cordial. H. Saxon.* each one Ounce and an half, tincture of Coral half a Drachm, Syrup of Pomegranates six Drachms. Mix them. Give it by spoonfuls.

If it come from Anger, Antispasmodicks, Antiepilepticks and Bezoardicks will be proper in this case : for instance ;

Take of Water of Black Cherries, Linden tree Flowers, *aqua epileptica Langii* each one Ounce, Syrup of Coral, Peony each six Drachms, tincture of Coral one Drachm and an half. Mix them.

You may also give Magistery of Ivory, and Elks hoof.

If it come from a too great Flux, then very Astringent things, and Stomachicks will be proper, and sometimes Opiates, and Cydoniates, *laudanum cydoniatum Hoffmanni*, and the skin of a Hens Gizzard. But in general *pulvis contra abortum Augustan.* and Magistery of Coral with juice of Citron, and other moderate Astringents are good against Abortion.

If a Woman always Miscarry, let her take this following ;

Take of *aqua embryon.* two Ounces, Nutmeg one Drachm and an half, *Saccharum refatum*, or *perlatum*, as much as will make it grateful. Or,

Take of Conserve of red Roses one Ounce, *condit. cortic. citri* half an Ounce, *confectio Alkermes incomplet.* two Drachms, *species de Hyacintho* two Scruples, *pulvis contra abortum Augustan.* two Drachms, *Marchion.* two Scruples, emerauld prepared, red Coral prepared each one Drachm, Pearl prepared half a Drachm, Ivory prepared without Fire one Scruple. With the liquor of candied Nutmeg make an electuary. Let the Patient frequently take the quantity of a Chestnut.

Tinctura granorum chermes Zwelferi, about thirty drops at a time, is an *Herculean* remedy.

The following mixture is to be given a spoonful at a time;

Take of Water of Mint, Orange pill each two Ounces, *aqua vite mulier.* tincture of Cinnamon each six Drachms, red Coral prepared two Scruples, distilled Oyl of Mace five drops, Amber-grise two Grains, Syrup of Orange Pill, Limon Pill, each what is sufficient. Mix and give it.

The Italian Women use tincture of Roses.

Capivaccius uses Powder of *coccus infectorius* with a little Mastich in a reer Egg.

In Miscarriage, where there is also a Flux of Blood from the Womb, this following will be proper;

Take of Mastich, *terra sigillata*, white Frankincense each one Scruple, Dragon's Blood, Bole Armenick each half a Drachm. Mix them. Make a Powder. The Dose is a Drachm.

Externally Cataplasms of white Bread and Sack, sprinkled with Powder of Cloves, Nutmeg, Cinnamon, Mint, Majoran, flowers of white Roses, *balaustia* and the like, may be applied, or Astringent liniments, adding oily Aromatics: for instance;

Take of *Unguentum Comitisse* one Ounce and an half, Oyl of Mastich three Drachms, Nutmeg distilled six Drops. Mix them.

Lud. Bourgois has a fomentation of leaves of Cypress, Majoran, Rosemary, Mint, flowers of Chamomil and Pilewort. Also a bag may be made thereof, which may be sprinkled with *aqua vite mulierum*, or some Strong Water. The same Person has also an excellent Plaster;

Take of *aqua vite mulierum*, or *balsamus embryonis*, or Sack two Ounces. Let it be applied hot to the Pubes, either with a Crust of Bread, or with Clothes.

The

The grievous Symptoms, as Pain, Gripes, &c. must be mitigated with Clysters, Electuaries, and Opiates, and a Woman must have a care of such things, as cause Abortion.

§. 37.

THESE following we reckon among empirical Medicines. *Ful. Cas. Baricellus Hort. Genial.* p. 308. says, That medlar Wood hanged about ones Neck prevents Miscarriage. *Pet. Forestus* commends the Stone found in the Womb, Heart, or Guts of a Stag, for an amulet. *I. Hartmannus* commends the drinking of the juice of a Crey-fish in good Wine, once or twice every Month.

Job. Heurnius magnifies the following Cere-cloth applied to the Belly, and *os sacrum*;

Take of Blood-stone, white Frankincense each half an Ounce, Mastich, *laudanum* each one Ounce, *Sumach* two Drachms, *Galbanum* half an Ounce, Pine resin what is sufficient. Make a Cere-cloth.

Jacobus Hollerius writes, that in Scotland the Gentlewomen there do often apply a Cake of *Tansy* to the *Pudendum* with good Success, and to make it smell the stronger, they rub it in their hands, or roast it a little in Embers.

Dom. Leo. commends the skin of a Hedge Hog burnt, and drunk in Wine.

Philippus Mullerus miracul. chymic. l. 5. for Abortion, commends, the skins of Hens Gizzards, dried and powdered, and a little given every Morning fasting in Wine.

Riverius commends the two following Medicines;

Take leaves of Gold, No. *xij.* *spodium* one Drachm, the Traddles of three Eggs, that are not wind Eggs. Mix them well, till the Gold be broke into very minute parts, then dissolve it in half a Glass of white Wine, give it in the Morning fasting, for three days, and apply the following Platter;

Take of *Olibanum* powdered three Ounces, five Whites of Eggs. Stir them well over the Coals; keeping always stirring, lest they clot. Add a little Turpentine. Take it up in Tow, and apply it as hot as she can bear it to the Navil twice a Day, Morning and Evening.

Daniel Sennertus, advises a Woman, that is like to miscarry, to wear an Eagle's Stone upon her Arm, and under her Arm-pits.

Gottfried Welsch says, That to put a little Leven into the Navil, prevents Miscarriage. And so do the ashes of a Hedge-hog, made into the form of an Unguent with Oyl of Mastich, and applied to the *Pudenda*. And he gives inwardly the Powder of a Childs Navil-string; which is made thus;

Take

Take a piece of the Navil-string, or that part, which after it is cut, sticks to the after burthen, wash it in Wine, and calcine it in a new Pot open in an Oven. Half or a whole Drachm of the Powder, with half a Scruple of Cinnamon and five Grains of Saffron, may be given in Sack and Mugwort Water.

§. 38. *Cure of a Mole.*

We will now briefly give you the Cure of a Mole. If then you are certain that there is a Mole, that is, a concrete Lump of Blood, you must do all you can to expell it: To which purpose you may give strong Purgers and Menagogues: for instance;

Take of *massa Pilularum fetidarum* one Scruple, extract of trochiscs of *Albandal* three Grains. With essence of Savine, make Pills for once taking.

And forcing Clysters may be given, made of Savine, and Coloquintida tied in a Rag, the Scoria of *Regulus* of Antimony, &c. *Essentia ad Menses* and Essence of Savine about 40 or 50 drops is an excellent remedy. A fume may be made of Powder of Anise and Cumin seed each three Drachms, Savine two Drachms, which may be received through a Funnel. An Ointment may also be made of Oyl of Coloquintida and cheiri. But do not use these things, ex-

cept you are certain of a Mole. This following is good for the same purpose;

Take of Water of Cinnamon one Ounce, bawm two Ounces, Essence of Saffron six drops, Oyl of Amber half a Scruple, Venetian Borax one Scruple. Mix and give it.

Philippus Grulingius says, there is no such successful secret as the Powder of Secundine given in Mugwort, madder, or Penny-royal Water.

Massarias gives one Drachm of an Oxes Gall as a secret to expel a Mole.

Eustachius Rudius l. 2. cap. 48. says, this is a very effectual Medicine to extirpate a Mole;

Take of Oyl of Sweet Almonds half an Ounce, *Sesamum* or Dill one Drachm, Sugar one Spoonful, root of female Fern one Scruple, Oxes gall one Scruple. Give it a Woman in a Bath.

Guerner. Rolfinc. epitom. med. says, "Some magnifie humane Secundine, and a Sheeps and Goats Secundine, powdered and given in Wine, for forcing away a Mole.

Jacob. Ruff. commends the following Pills;

Take of Seed of *nigella*, *Aristolochia rotunda*, dittany of Crete, Seed of wild Cresses, Savine, *Sagapenum*, Seed of Rue, Gum Ammoniack, *thymiana*, Madder, Myrrh, Castor, each one Drachm. With

With juice of Horse radish and Honey make Pills. The Dose is from half a Drachm to a Drachm.

§. 39. Cure of the Cramp.

IN the Cramp of Women with Child these things are proper; *Specificum cephalicum*, Elks hoof, Sea-Horse tooth, and other Antiepilepticks already mentioned in the Cramp. And outwardly *Unguentum Spasmodicum Minsichti*, one Ounce, Oyl of Worms two Drachms, *aqua articularum ad*

extra one Ounce and an half, Spirit of Worms one Ounce and an half.

A Ring may be made of an Elk's hoof, or a Sea-Horse's Tooth.

§. 40. Cure of the Sciatica.

IN the *Sciatica* all things are good, before mentioned in the Gout.

And the Cures of the rest of the Symptoms may be sought for in their proper Chapters.

C H A P. V.

Of difficult Travail, a dead Child, and breaking of the Water.

§. I.

A Woman above all Creatures is tormented most in bringing forth her young. Wherefore *Medea* in *Euripides* protests, she had rather engage in Battel thrice, than bear a Child once. But the Great GOD, *Gen. 3.* hath laid this Calamity on the Female Sex.

Description.

Difficult Travail therefore is, *when the Child cannot be born without Pain, and violent throws, and danger both to its self, and the Mother.* Now before a legitimate Birth the Water contained in the *amnion* must break, but neither the *os pubis*, nor the *os coxendicis* dilates, as many, contrary to experience, have thought. For the learned Anatomist *Georgius Francus* in his *Satyræ Medicæ*, shows by experience, that in Travail the *ossa pubis* remain close knit.

And Travail is called difficult from the Causes that make it so,

from the concomitant Symptoms, and from the event.

§. 2. *Part affected.*

ALL Authors take the Womb to be the Part affected, which they say is either affected, 1. By it self, as by its proper fault in temperament or Conformation: Or, 2. By consent, namely, when the whole is either diseased or faint.

§. 3. *Diagnostic.*

Signs of difficult Travail are known partly by the Woman her self, partly by the Midwife and those that are by. The length of time, Pain and Throws, &c. do declare it. For lingring, and languid pains, which terminate rather in the Loins and Belly than in the Womb it self; and, 2. Grievous ones, which do not at all bring the Child forward, show the Travail to be difficult. But what the Cause is, it behoves the Midwife to enquire, and relate it to the Physician. Since custom has made it usually Womens Work.

Travail

Travail also may be judged difficult from the preceding Causes, if namely all things have not gone well with the Woman, the Child, or the Womb, if she have used to have hard labour, or if she be too Young or too Old.

The natural and common Signs of Travail, are Pains in the Loyns, the falling down of a Weight to the bottom of the Belly, quick Respiration, and other Signs. And whatever unusual Signs happen either in excess or defect, argue the Travail will be difficult. And two do it especially, 1. Want of pain, whereby nature excites the animal Spirits to force the Child away; that is, when the pains are either none or too weak, a long time in coming and tending backwards rather than forwards. Wherefore *Aristotle, 3. histor. animal c. 9. says, Women that are griped in their Belly, are soonest delivered, they that are pained in their Loins have hard Labour, and they that are pained at the bottom of their Belly, have a quicker.* 2. Breaking of the Water before the usual time. For it is a peculiar Sign of hard Labour, when a great quantity of Water comes away, before Travail, because the passage is therefore the straiter.

Travail is reckoned difficult, if it last above four and twenty hours, and if there be any grievous Symptoms in Travail, or pains after it.

In regard of the Mother whether she be weak, or broken with Diseases, she is best able to tell.

In regard of the Child, Labour is known to be difficult, if

it stir seldom or weakly; for it is in danger of being strangled, or of dying: Or if the *Menses* or Blood, or after-burthen come first: If the Mothers Breasts, which were full, extenuate on a sudden, or if much or watry Milk run out, these things show the Child is not well, according to *Hippocrates Sect. 5. aph. 2.* If there be twins, the Labour is like to prove difficult. One may know the Child is weak by its crying. The Child is known to be dead, when it quite leaves stirring, whereas before it stirred briskly, and when the Mother finds it rowl to and again like a stone. A Sign hereof is, when the *Pudenda, Abdomen*, and the Nose are cold, and when the whole Body is several times chill; when the Face and Eyes of the Mother are changed in color, clearness, &c. If Milk run out of the shrunk Breasts, when an ichor or any other fætid matter runs out of the *Pudenda*; when there is a Fever, Palpitations, and Fainting: And you may know it by violent precedent Causes, that are apt to kill a Child.

If the way be in fault, the Midwife may find that. You may know, that the Secundine is tough, and cannot be broke, when the throws of Travail continue, and never the less no Water comes: Here is need of help, and the Midwife must tear the Membranes with her Nails.

§. 4. *Causes.*

BEfore we come to the Causes of a Preternatural Birth, let us consider a Natural. And in this the *Time* and *Manner* of Birth must be considered.

The *Time* of an humane Birth is reckoned by most Physicians to be the end of the ninth Month, after a Woman has conceived, whether the Child be alive or dead. A Natural Birth therefore happens about the two hundred and seventy third Day, or the twenty ninth Week, or the Ninth Month, Solar, not Lunar. There are Births in the seventh Month. So I observed it in a certain good Family, where the Woman brought forth six or seven live Boys in the seventh Month. I have observed that a Child born in the eighth Month may live: for beside several others, my eldest Son was born in the eighth Month, who is now six years old. You may consult *Sylvius* and *Drelingourt*.

It is false and ridiculous, that the Child endeavours its Exit in the seventh Month: Because there is neither Reason nor Experience for it: For Women feel neither Pain, nor any Endeavour in the Child after the seventh month, as *Sylvius* has well observed. And according to him, the Child comes at the seventh Month, when it is bigger than usual, and the Mothers Womb too little, or when the heat of the Air has dried up the Commissures of the *Placenta* and Womb, or upon some other Account. The Natural time of Birth therefore is about the end of the ninth Solar Month.

The *Manner* is reckoned most Natural when the Child comes into the World with the Face downwards, then the Shoulders, and afterwards the whole Body; or if both Hands get out, and then the Head. The *Manner* is also reckoned Natural, if both Feet come first, then the Belly, the Breast, and the Head last.

All that comes contrary, happens either through some Fault in the Mother, or Child, a bad Midwife, an ill Passage, or upon the Account of some external Cause.

And the Mother may be in fault;

1. When she is weak or sick, and her Strength fails thereupon.

2. Labor proves difficult, when the Mother is too young or too old; because in such the Passage is too strait.

3. The Birth is hindered through the Mothers Fault, when she resists her Pains, and in her Travail composes her self badly for it; when she holds not her Breath, nor strains downwards towards the *Pubes*, as the good Women bid her.

4. The Birth succeeds ill, when the Mother is sick of any uterine Disease, or of a Disease in any Parts near the Womb, to wit, a Rupture of the Womb, or if the *Vagina* be closed, &c.

5. It succeeds ill, when the Mother dies in the midst of her Travail; but then the Child is not born, but cut out of the Mothers Belly.

And the Child is in Fault, when either the whole Body, or Head and Shoulders are too large to come out at so narrow a Passage, when there

there are more than one, when they are monstrous, when it is sick and weak, so that it cannot promote its own Birth, when it is ill turned or when it is entangled in the Navil-string, or when the After-burthen is separated from the Womb unseasonably, or comes first; or when the Membranes that involve the *Fœtus* are so tough, that the Child cannot break through; or when the Child is dead, which it often is in the Mothers Womb, either in the very Birth or before it.

Cause of a Dead Child.

THE Cause indeed of the first Death we have seen already, the Causes of the latter may be divers. 1. Some grievous Disease of the Mother, which being communicated to the tender *Fœtus* kills it, the Mother recovering. 2. Some grievous Disease of the Child, whencesoever it come. 3. Want of nutritious Juice and necessary Aliment. 4. Some uterine Disease come in the time of being with Child. 5. Plurality of Children, which occasions the Death of one or both, for the most part. 6. Misfortune from external Causes, necessary or not necessary, a Blow, Fall, Bruise, Wound, Breach of the Vessels and the like.

So the Labour may prove difficult through the Midwife's Fault, or the Women by-standers, if they do not their Duty. Through the Midwife's, if she be ignorant of her Office, or bold and adventurous, and cares not whom she kills; or if she sacrifice more to *Bacchus* than to *Lucina*, if she be malevo-

lent. For thus, I dare say, several are killed. *Sanè pol temulenta est mulier, et temeraria, nec satis digna cui committas primo partu mulierem, Terent. in Andria.*

The By-standers may be the Cause, when either they do not at all, or not aright, what the Midwife orders them to do.

§. 5.

AMONG the Non-natural Causes may be reckoned an over-cold and dry Air, to wit, a Northern; for when a Woman with Child has exposed her Body to it, it straitens the Genitals, and hinders them from dilating. And in Winter time Labors are most difficult usually; because the Air then impregnated with a constringent Acid offends teeming Women. So likewise an over-hot Air occasions bad Labor, as it wastes Strength.

External Causes are meats that are cold, moist, acid, salt, austere, bitter, astringent, crude and apt to corrupt, such as horary Summer Fruits eaten immoderately by a Woman with Child. Also drinking cold Drink, when the Body is hot, is bad. I have twice seen a Child killed, and quite mortified by the Mothers drinking Drink cooled with Ice.

Sleep and Rest in excess are bad, and Exercise, which turns the Child before the time. Sudden Passions of the Mind are bad. And so are Excretions suppressed, as the Urine, which when it is not made stops the Child, and so do gross and hard Excrements in the Guts.

The

The vain Astrologers Influences of the Stars signifie nothing in this Case.

§. 6. Prognostick.

ALL difficult Labour is dangerous either to the Mother or the Child, or both; especially if either or both of them be sick, and weak; if the Mother be too young or too old; if the Child come out with one Hand first, which is very bad; if the Child's Neck be entangled in the Navil-string. Difficult Labour is often attended by a Breach of some Vessel in the Breast, spitting of Blood, a troublesome Cough, Dilaceration of the Parts, and the King's Evil, as I knew an Instance at *Hanover*. Some break the *Peritonæum*. Some have Ruptures in the Navil and the Groin. Some have the Sight of the Eye dilated, and loose their Seeing. Some get the Strangury. Some fall lame. Others grow barren. Some have their Bellies deformed with Wrinkles. A Procidence of the *Vagina uteri* often happens in hard Labour, because by the Violence of the Pulling it is often forced to follow what it contained, and unless it be gently replaced, it produces several other Symptoms. When the Water has been long broke, the Child is in great Danger; because the Water serves it for Respiration as Air does us: for in Inspiration the Child takes it in, and in Respiration puts it out. Besides, when the Water is gone the Parts are dry, which should be glib, for the easie Passage of the Child.

If the Extremities be cold, a Lethargy, cold Sweat and Faint-

ing, Difficulty of Breathing, *deliria*, Convulsions, Sadness, Despair, Sardonian Laughter, &c. are never-failing Fore-runners of Death. There are good hopes if the Mother be chearful, couragious, if she have Strength, if she sneeze, it is well according to *Hippocrates Sect. 5. Aph. 35*. When the Labour is hard, and all things requisite well, we need not despair. A Palsy of one Thigh sometimes remains after hard Travail. Hither belong these Aphorisms of *Hippocrates. S. 5. Aph. 35. S. 5. Aph. 46. 55*.

§. 7. Prognostick of a dead Child.

DAily Experience shows, that a Dead Child often kills the Mother; because it helps not at all, and unless it come away it causes divers Inflammations and Tumors in the Womb, and in the Parts adjoyning, and several Diseases in the whole Body. Yet some Women who are strong and large made, or easily dilated, sometimes escape.

§. 8. Dietetick Cure.

AS for the Diet, the Air must be something warm: and the Cold must be avoided, for what harm it does the Womb and the whole Body of lying-in Women we have many sad Instances. Hereby the Blood is often coagulated, and Pains, Gripes, Anxieties, Swoonings, Fevers, and other grievous Diseases are often Bred by it. In

In a warm Air all lying-in Women are well: for it disposes them to sweat, which preserves them from Diseases incident at that time. The *Meat* must be such, as is not of a Nature to stop the *Lochia*, nor to provoke them over much: For in this their Safety lies. Therefore all acid, crude, and windy Meat must be forborn. All things likewise are hurtful that are fat, salt, austere, smoak-dried and fryed, and Milk-meats. Pullets, Partridge, Leverets, Veal, Lamb, Chicken-Broth and Water-Gruel with Currans are good. Wine and all strong things are naught for lying-in Women: For it puts them into Acute and Mortal Fevers: whereof I know several Instances.

As to *Motion and Rest*, lying-in Women would do well to keep their Bed for nine days, within which time it is dangerous to rise.

The *Excreta* and *Retenta* must be at their Natural Pass.

The *Passions of the Mind* must be moderate. Let them keep chearful: for Anger and Grief do mischief.

§. 9. Pharmaceutick Cure.

Before I fall upon the Method of Cure, I will premise some things about the Office of a Midwife. A Midwife must be Faithful and Sworn, that she never put a false Child in the room of a true one, nor pierce the Child's Scull with a Pin, nor

tear any thing with her Nail. She must be Pious and Modest, a Widow, and not young, but elderly, or of a middle Age; she must not be talkative, drunken, nor arrogant, not a Scold, nor covetous: She must take Pains and not be decrepit, so as either through want of Strength or Sight, or through the shaking of her Hand, not to be able to do her Business aright. She must be skilled in Anatomy, especially about Women's Genitals. She must know the time of Birth very well, and how to distinguish Pains, and not mistake colick Pains in the Belly for Pains of Travail, nor wandering Pains for constant, and so waste the Womans Strength by putting her on Labour to no purpose. She must by the Magistrate be ordered to be examined by Physicians, before she takes the Office upon her.

If the Child offer it self in a preternatural Figure, let the Midwife take the Advice of a Physician about it. And if the Physician find the Mother weak, he must prescribe Analepticks, that the Mother and Child may be enabled to undergo the laborious Task. For which end, some Wine mulled with Mace, the Yolk of a Egg, Sugar and a little Saffron will be proper; or a little *Confectio alkermes*, may be given frequently upon an Knife's point, the Mothers Navil may be rubbed with Canary, or *Aqua Anhaltina*, or *Balsamus vitæ*, or it may be applied with a Tost, or a Spoonful or two of *Balsamus Embryonis*, may be given.

You must strengthen the Mother and Child with Cordials, Spirituous,
Sff and

and aromattick things and volatil Salts, or with the like Internals mixt with Specificks: for Instance;

Take of Water of Rosemary, Orange Peel each one Ounce, *Aqua Vitæ Matthioli*, Tincture of Cinnamon each half an Ounce, *Confectio Alkermes*, or *Hyacinchi* one Drachm, Spirit of Sal Ammoniack aromattised twelve Drops, destilled Oyl of Mace two Drops, Amber two Drops, Syrup of Mint or Cinnamon fix Drachms. Mix them. Or,

Take of *Spiritus Salis aromatizatus*, or *Oleofus* one Ounce, Oyl of Orange Peel, Mace, Amber, each five Drops. Mix them, and let them stand in Digestion. The Dose is about twenty Drops, three or four times a day in Sack or some generous Wine.

The second Intention of the Physician consists in Dilatation, and Lubrication of the Passages. To which end an *Infessus* or *Semiscupium* before Labour is good to facilitate it. The noble *Ettmuller* commends this following;

Take of Leaves of Mallow, Marsh-Mallow, Bawm, Flowers of Chamomil each three Handfuls, Mallow, Melilot each one Handful Seed of Line, Fenugreek each three Ounces, Root of Marsh-Mallow four Ounces. Shred them. Let the Woman sit over the Decoction, as long as she can well bear it, every other day, when she is near her time.

When the Sweat is wiped off, let her lie down in Bed, afterwards anointing her Navil and Loyns with a Liniment of Mucilage of Seed of Line, Fenugreek, Marsh-Mallow, Oyl of Sweet Almonds and white Lilies. All fat things are proper in this Case, Rape Oyl, and Fat of Animals, which the Midwife must use. According to *Sylvius* this Fomentation will be proper;

Take of Root of Marsh-mallows one Ounce, Leaves of the same and Mallow each one Handful and an half, tops of Melilot one Handful, Seeds of Fenugreek, Line each three Drachms. Being shred and grossly bruised, boyl them in fair Water, and a quarter of an hour before she goes to Bed, let her receive the ascending Fume; repeat it, till the Virtue of the Plants be gone, and then use fresh ones.

If after Travail either the *Collum* or *Vagina uteri* grow together, the Coalition must be opened in time, and slightly cicatrized.

In a Plethory it will be good to let Blood, and the *Saphena* may be opened.

If the Body be costive, Clysters made with Uterines may be given: for the hard Excrements may hinder the Birth of the Child: for Instance;

Take of root of Marsh-mallow, Mallow each one Ounce, white Lilies, Bryony each half an Ounce, the five emollient Herbs, Flowers of Melilot, Chamomil each

each half an handful, Wall-flowers one Rugil, Seed of Fenil two Drachms. Boyl them in a sufficient quantity of Milk. Add of lenitive electuary half an Ounce, Oyl of balsam-Apple half an Ounce, *species diacastorei* one Drachm, Honey of Roses half an Ounce. Mix them. Make a Clyster.

Volkamerus, the chief Physician of *Norimberg*, commends Oyl of Balsam apple, as excellent to Anoint the Orifice of the Womb.

But when the Membranes are too tough, for the Child to break through, they may be anointed with this following;

Take Oyl of Nuts, *Venice* Soap each two Drachms. Mix and use it.

Or the Midwife, as was said, may open them with her Nails, or a Knife or Lancet.

If a carnosus excrescence or a wart stop the way, they must first be cured, to which purpose, Oyntment for Warts and other Chirurgical means will be good.

And so other Diseases of the Womb, must first be cured with proper remedies.

When there is an Hæmorrhage by the Womb and Bladder, it must be stopped with Astringents, especially with Opiates, *Diascordium*, &c. The heat of the Body must be cooled; and all causes that hinder the Birth, must be removed.

But in this case Forcers or Hæmagogues, which have a specifick property, either alone, or mixt

with other comfortable things, are excellent. The most celebrated by experience is *borax*. Wherefore it generally makes up the *basis* of all Medicines that promote the Birth. I have seen several admirable effects from the following Powder, which is a most Serene Princess her secret;

Take of Amber prepared half a Scruple, *Venice* Borace six Grains, Powder of Hen's Gizzards four Grains. Mix them. Make a Powder. It may be given at thrice, in the following mixture, or in some other vehicle.

Take of Water of Penny-royal, Bawin each one Ounce, *rubr. Danic.* half an Ounce, tincture of *Cassia* half a Scruple, Mix and give it. It may be given also alone by spoonfuls.

The following mixture is famous;

Take of Water of Cinnamon, Penny-royal, white Lilies each one Ounce, Gall of an Eel half a Drachm, Borace, Cinnabar of Antimony each one Scruple, Spirit of humane Secundine half a Drachm, Syrup of Peony six Drachms. Mix them.

I have experienced Powder of *Rhincceros* horn from six Grains to ten, given several times in Vervein water.

Here also Medicines of Myrrh, especially *flores sulphuris myrrhati*, are good, and Medicines of Amber and other volatil things do the same.

sane. The following mixture, is not inconvenient ;

Take of Water of Motherwort two Ounces, Cinnamon half an Ounce, Borrage half a Drachm, Myrrh one Scruple, volatil Salt of Amber half a Scruple, Syrup of Cinnamon three Drachms. Mix them. Give it at twice, or by spoonfuls. Or,

Take of Water of white Lilies, Penny-royal each one Ounce, Cinnamon half an Ounce, Spirit of Soot, Powder of Secundine prepared each one Drachm, Syrup of Cinnamon or Mugwort half an Ounce. Mix and give it. Or this Powder ;

Take of an Horse's Stones dried one Drachm, Borrage two Drachms, Cinnamon, Saffron, each half a Scruple. Make a Powder and divide it into three equal parts.

Hoffmannus commends this following ;

Take of Venice Borace one Drachm and an half, *glacies Mariæ* fix Drachms. Mix them. The Dose is from a Scruple to half a Drachm in Cinnamon Water.

Belmont in hard Labor reckons the Liver of Eels, Serpents, &c. as a secret.

When the Water does not come away, a Fomentation of emollient Herbs is good-

When the Water comes too soon, it is good to apply Oyl of white Lilies or sweet Almonds

warm, and a Liniment of the Mucilage of Roots and Seeds of Marsh-mallow, Line, and Fennugreek, drawn with Mallow Water.

In difficult Travail besides vegetables, these things deserve commendation, tinctures of Castor, Amber, and Saffron, Oyl of white Amber, Man's skul, Harts-horn, Soot, Goat's Blood, fetid Oyl of Tartar ; and Powders of humane Secundine are more effectual, adding trochiscs of Myrrh, or Borace; or a tincture of it, drawn with Spirit of Wine, adding a few drops of Oyl of Savine.

Barthasar Timeus uses this following potion ;

Take of Water of Bawm, Cinnamon, *aqua hysterica* each one ounce, Myrrh one Scruple, Saffron half a Scruple. Mix them. Make a Potion, and drink it warm.

There are several external things which hasten the Birth ; as Sternutatories, Fomentations, or bags applied to the Navil. Amulets either hung about the Neck or applied to the Knees, Legs or Stomach, such as the Eagles stone, Blood-stone, Loadstone; *styrax calamita*, Tiger's skin and the like. Liniments are often excellent : for instance ;

Take of *Unguentum dialthææ* fix Drachms, Fat of Serpents two Drachms, of Quails, Oyl of Wall-flowers, white Lilies each one Drachm, Amber one Scruple. Mix and give it.

They may be girt with Girdles of a Man's or Stag's skin, which, and

and other things do good, as they help the compression of the *Abdomen*.

When none of these things will do, and the pains encrease, either the Mother, or Child, or both must Die, unless you cut out the Child. But when the Mother is dead it must be done quickly: for the Child in the Womb cannot long survive there. And Section of the Child out of the Mother alive, is easier said than done. But though it be difficult and frightful, it is not impossible, as we have several instances.

§. 10.

NOW we will proceed to empirical Medicines, whereof every good Woman has one.

I have by my own experience seen several effects of a piece of Tigre's skin, tied to the left Thigh.

Some tie the heart of a black Hen to the left Hip.

Johannes Agricola says, that, to force away a Child, the Secundine, or a dead Child, nothing is better then *aurum potable*,

Petrus Bayrus ties the root of a Gourd above the reins of a Woman in Travail, and, as he says, she will presently be delivered.

Jul. Cæs. Claudinus, to bring pains, gives two Ounces of warm Water, and a little Honey.

Hermannus Corbæus Gynæcii, l. 2. c. 5. gives this as an infallible secret;

Take Nettle root, boyl it in Wine; and in a draught of that Wine give of Powder of Cinnamon

two Drachms, Saffron one Scruple.

Or white Amber and white Hawk's dung each half a Scruple may be given in Wine.

Claudius Deodatus will have a Woman to chew Bay leaves in her Mouth, and to tie them above her Navil.

Let Vervein with root of Poly-pody be tied to her Hips.

Franc. Oswald. Grembs in difficult Travail commends a Drachm of *Lapis Specularis* drunk in white Wine, and the Eyes of a Hare, taken in March.

Phil. Grulingius says, *Med. pr. l. 4. part. 4. c. 4.* In hard Labour there is not a more present remedy than this. Give the Patient a piece of *Boletum Cervinum*, as big as a small Bean, to chew a little, then bid her rub her Navil with the one half, and keep chewing the other.

Helmont magnifies the Liver and Gall of an Eel dried and powdered, and drunk in Wine, about the quantity of a Hazle Nut. And he says, there is the gift of GOD in this simple experiment.

Conrad Kubnrad. medull. destillator. p. 1. has this following experiment for hard Labour;

Take two live Crab's, bruise them and strain out the juice. Add of Fox and Hare's Fat, each equal parts, melt them at the Fire: then put in the foresaid juice. Mix them, and make an Unguent.

He also says, it has been often tried, that if Rosemary be bruised, and steeped four and twenty hours

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in Vinegar, and a little of it tied to the Womans Navil, and half a Drachm of prepared Amber taken also inwardly at the same time, in Wine or Mugwort Water, it will hasten the Birth. He also says, it is a certain experiment, if the Woman in Travail take a little of her Husbands Urine.

Simon Paulli says, this is a never failing experiment;

Take of Seed of Lavander half a Drachm, Plantain, Endive each two Scruples, Pepper one Scruple. Mix them. Make a Powder. Let the Patient take it in three Ounces of Woodbind and Endive Water. Or,

Take of Seeds of Lavander half a Drachm, white Amber, Borace, each two Scruples, Oyl of Cinnamon nine drops. Mix them. Make a Powder for three Doses in Rhenish Wine.

Franc. Ranchinus has this following;

Take two Drachms of *spermaceti*, in Cinnamon Water, or in a Decoction of Motherwort and Mugwort.

Eustachius Rudius says, this following has been tried by long experience;

Take of the rind of *cassia fistula* one Drachm, *asarum*, Cinnamon, Saffron, Savine each half a Drachm. Mix them. Make a Powder. The Dose is one Drachm.

Jo. Andr. Smitzius commends

five or six Grains of Juniper Berries.

Martinus Schmak gives two pieces of white Lily root. He also gives the Water in which two Eggs have been boyled hard.

Joh. Schroderus highly commends the tears or Gum of Harts, about three Grains, in hard Labour.

Semertus gives a few drops of the liquor destilled of hazle Wood, in some convenient Water. He also commends a dried Secundine, amulets of Snake's Sloughs. He also says, that Coral, Jasper, Knot-grass root, and green Coriander does hasten Travail, tied either to the Hip, or to the Soles of the Feet.

Arm. Weikerdus his Secret is one Drachm of *Pseudo Melanthium* in strong Wine.

Some also say, that a *Glossopetra* held in the Womans hand till it is warm, hastens her Travail.

Columbine Seed powdered and drunk in Wine, is good to hasten Travail.

And so is *dictamnus Creticus* both inwardly and outwardly.

The Rose of *Fericho* put into a glass of Wine, makes a draught, highly valued by some for hard Labour.

§. II. *The Cure when the Child is Dead.*

WHen the Child is Dead, and so the difficulty in Travail the greater, care must be taken to force it away presently, lest it putrefie and endanger the Mother. And all the things before mentioned,

mentioned, that promote the Birth, and the *Menses* powerfully, do likewise force away a dead Child, such as roots of white dittany, *aristolochia rotunda*, Florentine *Iris*, *asarum*, black Hellebore, leaves of Savine, Dragons, Motherwort, Saffron, Marigolds, Gums, as Myrrh, Aloes, Borace, Ammoniack, *Galbanum*, *Sagapenum*, Pulp of Coloquintida and the like. We in this case do with success use trochiscs of Myrrh, Venice Borax, Savine leaves, Saffron, Filings of Steel, &c. For we never, as some Authors have advised, durst yet use Vomits. All Balsamicks, that resist Putrefaction, are good: for instance;

Take of white Dittany, Cinnamon, testicle of a Horse, Borace each half a Drachm, Castor, Myrrh, Amber each half a Scruple. Mix them. Make a Powder and divide it into three equal parts.

D. Moræus commends this following;

Take of Wall-Flowers, Venice borax, white Amber prepared, shavings of Savine wood, *Gallia moschata*, Saffron each half a Scruple, *confectio Alkermes* half a Drachm, prepared Pearl half a Scruple. Mix them. Take it in Cinnamon Water warm. Or this following may be given at one Dose;

Take of *aqua carbunculi* two Drachms, Water of Cinnamon, white Lilies each half an Ounce, cordial. *H. Saxon. calid.* three Drachms, Venice borax half a

Scruple, Salt of Snake's eight Grains, *Balsamus vitæ* three drops, essence of Saffron two drops. Mix them. Make a Potion.

A *Pessus* may be made of Gum *Sagapenum*.

§. 12.

Vhen Physick will not do, we must go to Chirurgery. Which is performed by the Hand or Instrument.

§. 13.

These Medicines following are empirical.

Tobias Dorncrellius says, to expel a dead Child at any time, pound some Rue and Scammony together, incorporate them in Cotton, and put them into the Matrix.

Petrus Forestus gives the juice of green Lovage leaves in Mugwort Water, or Beer, or Wine. He also commends the following Powder;

Take of *assa fatida*, half a Drachm, Seed of Rue, *cassia lignea*, Date stones, Borace each one Drachm and an half, Saffron half a Drachm, Myrrh, *theriaca diatessaron* each one Ounce. Mix them. The Dose is one Drachm in Savine Water.

He says also *observat.* 76. that he gave a Woman, who could not be delivered of dead Twins, a Decoction of Mugwort and Savine with Lily Water, and he took

green Savine, adding a little Powder of Saffron, wrapt it in a linen Cloth, in form of a Pessary; he ordered it to be dipt in Oyl of Lilies, to be put up into the Womb, and to be kept there a little. After taking of which Medicines the Woman was in a quarter of an hour delivered of a dead Child.

David Herlicius says, nothing is better than a Decoction of Linseed, or it may be injected into the Womb.

Domin. Leo says, a dead Child, may presently be brought away by a Pessary made of Coloquintida, *Galbanum*, root of Snake-weed and black Hellebore.

Maroldus commends a Plaster of boyled Coleworts, mixt with Fat. He also highly values a Decoction of *Iris* leaves.

Sennertus commends fifteen or twenty drops of Oyl of Hazlewood, drunk in Wine, and the Testicles of a Horse.

CHAP.

C H A P. VIII.

Of the Symptoms of Lying-in Women.

§. I.

Several Symptoms attend lying-in Women: we shall examine the chief. In some the Secundines remain behind, in some the Flux of the *lochia* is too little, in others too much; all have after-pains, and a Milk Fever; some want Milk in their Breasts; others have too much and coagulated; hereupon ensue Inflammation, Hardness and an *Erysipelas*. What other Diseases occur, they may be seen in their proper Chapters.

§. 2.

THE After-burthen is called Secundines à *Secundis*, because it is, as it were a Second Birth. It might very well be derived à *Sequendo*; because by right it should immediately follow the Child. It is called *loculus*, *Secunda*, &c.

Description of the After-burthen.

THE Secundines are the Membranes that inwrap the Child, or the third and outmost Coat of the Child, beset with Veins and Arteries arising from the *Cotyledones*, and fastened to them, and it is fastened likewise to the Navil of the Child by the umbilical Vessels; and in a Natural Birth it always comes away with the Child, together with the *placenta uterina*. But in a preternatural Birth, sometimes after the Child is Born, the Secundines tarry behind in the Womb.

§. 3. *Description of the Lochia.*

IN every Birth the *placenta uterina* is separated by the Midwife, whence proceeds a Flux of Blood after delivery, which Blood being lodged in the cavernous substance of the Womb, and evacuated, is called the *lochia*, or Child-bed Purgations. Some lying-in Women have their *lochia*, for two, three,

three, four days or more, some have them eight, ten days, or more; and sometimes more, sometimes less Blood comes away in the time. Which a good Physician ought well to consider, and whether the Flux be natural or preternatural. For Women that have abundance of *Menses*, have more of the *Lochia*.

§. 4. *Description of after-Pains.*

PAins do not only come upon Women in Travail, but after, which are often so violent, as to produce not only a Fever, but a *delirium* also, and sometimes Death. The good Women therefore are out, who think these Pains are good for those that lie-in; for in their opinion Pains promote the *lochia*, which is altogether false, as *Sylvius* says very well, Therefore because the Cure of these said Pains is neglected and hindered by many, as beneficial, yet the neglect thereof costs many Women their lives in Child-bed.

§. 5. *The Milk Fever, Hardness, Inflammation and Erysipelas.*

THree days or more after they are brought to Bed, Women are taken with a shivering, and a Fever. And so the Milk undergoes divers mutations; and sometimes is coagulated, which causes hardness of Breasts, Inflammation and an *Erysipelas*.

§. 6. *Signs of the Retention of the After-burthen.*

Signs of the Secundines retained are manifest to the Midwife and Women that are by.

Signs of Flooding.

YOU may know a Flooding by the large efflux of Blood, Faintness, Swooning, Paleness, Leanness, and such like grievous Symptoms, which usually attend other immoderate excretions of Blood.

Signs of deficient Lochia.

YOU may know the *Lochia* are suppressed, partly by the Lying-in Woman her self, and partly from the by-standers, by a dull pain of the *Hypogastrium*, loyns, *Abdomen*, swelling of the Belly, difficulty of breathing Fever, and other supervening Symptoms.

Signs of a Milk Fever.

A Milk Fever or Ague is known principally hereby, viz. that the Child-bed Woman three days after her Delivery, is taken with a shaking, and afterwards with Heat, Thirst, swelling of the Breasts, uneasiness of the whole Body, &c. Which is sometimes attended with an Inflammation, and an *erysipelas* of the Breasts and other parts.

§. 7. Cause of the Retention of the After-burthen.

IT often happens in Travail, especially a difficult one, that when the Child is come into the World, either because the umbilical Vessels are corrupt, or too small, or because they are entangled about the Neck or other parts of the Child, or because they are pulled too violently by the Midwife, or because the Secundine sticks too fast to the Womb, or for some other Cause, to wit, the Mothers weakness, or the closing of the parts, or the breaking of the Vessels by the ambient Air, or some other way, the Secundine remains in the Womb, and cannot conveniently be voided.

§. 8. Cause of Flooding.

FLOODING has several causes, a Plethora, thinness or thickness of Blood, its Acrimony, or violence in Motion, the disorder of the animal Spirits, but especially the Anastomosis or breach of the Arterious Vessels after delivery.

The external Causes are the Air, when too hot; Aliments and Medicines too sharp, and Menagogues, excessive Watching, unseasonable or excessive motion of the Body; wherefore they that apply themselves to business before their Month is out, are subject to this Disease. Sudden passions of the

Mind, as Anger. Other excretions suppressed, besides other things which may befall them as a blow, fall, &c. Or the violent dilaceration of the Midwife, that causes an excoriation of the Womb, which must needs be painful, especially when any great Vessels of the Womb are broke. Sylvius says, the primary Cause of After-pains, is the close connexion of the Secundine with the Womb; and the second is the flowing of the Blood by the rent and excoriated parts of the Womb, which corrodes them, especially when the Blood is sharp.

§. 9. Cause of the Suppression of the Lochia.

A Suppression of the lochia is, when after delivery either no Blood at all, or very little, and that Serous or Puitous, either with or without Pain, is voided by the Womb. It proceeds from some fault in the Blood, or Diseases of the Womb and its Vessels, rarely from the Diseases of the vagina and other parts. The Blood is in fault, when there is little in the Body, and when much of it was lost before the Travail, and in it, when it is Grumous and Thick, as it is usual after delivery, at which time even such as have their lochia, usually void great clods of Blood, and sometimes also it is so Phlegmatick and Viscid, that it stops the Vessels. The Vessels also may be in fault, when they are obstructed and compressed by a tumor of the Womb or of other parts,

or

or are straitned by the cold ambient Air, or over cool, inconstant and astringent Food, or Medicines Internal or External. External causes also may be in fault, the Air, Meat, Drink, and Medicines too cold, over much Watching, too much Sleep and Rest, sudden and grievous Passions of the Mind, sudden cooling of the Hands and Feet, a Fever, or any other Disease. Pain also may stop the *lochia*. For *Ettmuller* has observed, that it is not the Translation of the matter to the Breasts, that stops the *lochia*, but the pain; for notwithstanding the Breasts are full, when the pain ceases, the *lochia* come again. And he has several times observed, that after-pains have stopt the *lochia*. The Cause of After-pains, when the *lochia* do not come well, or not at all, is when there are sharp humors in them, which exulcerate and fret the parts, by which they must pass.

§. 10. Cause of a Milk Fever.

A Milk Fever may easily arise, either because chyle flows by its ducts in greater quantity than usual into the Mass of Blood, and disturbs it, or through the Retention of the *lochia*, or too violent After-pains. I think that the Cause of these Fevers may also be some insensible and heterogeneous Particles, which traversing the Blood, do put it into an Effervescence.

§. 11. Cause of want of Milk.

THE Breeding of Milk is hindered, either by some fault in the Breasts, or in the Chyle. The Breasts are in fault when the glands are wanting, or when they are inept either to breed or keep Milk. The chyle is in fault, when it cannot come at the breasts. Or when, though it be carried, it is unfit.

§. 12. Cause of too much Milk.

THE Cause of too great store of Milk, is laudable and plentiful chyle, the non-naturals being in good order, especially a good constitution of the Glands of the Breasts, which consists in their softness. For it is observed, that Women who have such Glands, have the most Milk.

§. 13. Cause of curdling of the Milk.

Milk Curdles in the Breast through some acid got into it.

§. 14. Cause

§. 14. Cause of Inflammation of the Breasts.

AN Inflammation has generally a Fever with it, and arises from an over Effervescent Blood: for then the Sulphureous Particles being carried to the circumference of the Breasts, the external parts, and the very Particles of Blood, which are still above the rest, if nothing hinder their appearing, do give a kind of redness in the surface of the Patient: And an Inflammation is nothing but a preternatural Fermentation of the Blood, got out of its Receptacles.

§. 15. Prognostick.

YOU may expect as bad from the retention of the Secundines, as from the retention of a dead Child. And if they are not got out by Nature or Art, the Woman must die.

The suppression of the *lochia* is a dangerous case, not only because particular Diseases are caused by it, but universal ones may be bred in the whole Body, as acute Fevers, Phrensies, *Mania's*, Melancholy, Pleurifies, Peripneumonies, Inflammations of the Womb, &c. If there be a *stupor*, Paleness of Face and Convulsions, there is small hope of recovery. Lying-in Women are cured often of this Disease, by a long Hæmorrhage in another place, or by a plentiful Sweat.

But Flooding, as it weakens and often kills Women; so it may occasion several Diseases, which

you may see in other Hæmorrhages.

After-pains are easily cured, because sometimes they go away of themselves.

The Milk-Fever portends no bad, if care be but taken, that the Effervescence of the Blood once raised degenerate not into a worse; and if the Breasts fill, the Milk be drawn out: Otherwise an Inflammation, Tumor and Abscess of the Breasts may be feared.

§. 16. Dietetick Cure.

IN these Diseases the *Air* must be Serene and Temperate, above all things a cold Air must be avoided. The *Food* must be of good Digestion and Juice; and let Women have a care they take no Acid, for it is very mischievous. The *Motion* of her Body must be moderate, and for nine days she must, if possible, keep her Bed, *Sleep* is good, and *Watching* is naught. The *excreta* and *retenta* must go well. Let the *Mind* be kept cheerful, and free from any Passion.

§. 17. Pharmaceutick Cure of the Secundine.

THE Ancients say, the retained Secundine may be forced away with such things as bring away a dead Child. Among other remedies, they say, it may be extracted by the hand of a skillful Chirurgeon. And if it stick so fast to the Womb, that it can no other way be got out, but putrefies

fies there, they say, Suppuraters must be put into the Womb, mixt with Detergents. To this end *Rondeletius* commends *Unguentum basilicum*.

§. 18.

Sylvius, who thinks it proceeds from the abuse of gross and glutinous Food, which produces the like Blood, that the After-burthen sticks so fast to the Womb, commends things that correct glutinous Phlegm, namely lixivial Salts, volatil and fixt, Aromatick things, Phlegmagogues, and a correct Diet; Sudorificks, Diureticks, and Emmenagogues.

§. 19.

IN my judgment the intentions of Cure, are to expel the Secundine presently, to mitigate the Symptoms, and to preserve strength. Things that bring away the Secundine, are either Pharmaceutick or Chirurgical. The Pharmaceutick are such as powerfully expel the *Menses* and a dead Child. If therefore a Woman, after she is delivered, cannot get rid of the Secundine, for want of strength, she must first of all be refreshed with convenient Food, as Caudle made with Wine, Saffron, Sugar and Eggs, gelly broths of Chicken and Partridge. Then she must hold her Breath, and squeeze her Belly. And the Midwife must do her Office. Fumes and bags may be used, made of Uterines.

Here divers Internals are proper which we have mentioned before. But a Drachm of the Powder of

dried Secundine given in broth has a specifick virtue. And so has a Drachm of the skin of a Hen's Gizzard, given in white Wine. Or the Powder following, or some such like may be given;

Take of Amber prepared one Drachm, Borace half a Drachm, Trochisces of Myrrh one Scruple, Mather half a Drachm, Saffron half a Scruple. Mix them. Make a Powder. Give a Drachm in Wine and Sugar. Or,

Take of *Venice* Borace, white Amber each one Scruple, Saffron, *cassia lignea*, Castor each half a Scruple. Mix them. Make a Powder. Or this decoction;

Take of root of *Scorzonera*, Peony, Cichory each one Ounce, leaves of *Scordium*, Borrage, Bawm, Mugwort, each half an handful. Boyl them in fair Water. Add to the colature of Syrup of Mugwort, Limons each two Ounces. Mix them.

Joel gives the following Powder;

Take of Castor, Myrrh, liquid *Storax* each one Scruple, Cinnamon, *Aristolochia rotunda* each half a Scruple, trochisces of Agarick half a Drachm, *Diagridium* five Grains, Saffron, *Siler montanum*, Savine each four Grains, opium of *Thebes*, *asa fatida* each six Grains. Mix them. Make a fine Powder.

And she may take sneezing Powder.

§. 20.

AMong Externals the noble *Ettmuller* commends this following;

Take of leaves of Motherwort, Penny-royal each one handful, Savine two handfuls, Berries of juniper, Bays each one Ounce, Coloquintida half an Ounce. Shred them grossly, and boyl them in fair Water, the hot steam whereof may be received by a Funnel in a Close-stool Case a while, and may be repeated several times.

But if the liquor cool again too soon, it may be made hot with red hot stones or Iron cast into it. Bags may also be made of these Ingredients, and applied to the Belly.

§. 21.

Here follow several empirical Medicines. *Horatius Augenus*, commends a Drachm of the Testicles of a Horse dried in an Oven.

David Herlicius holds the Secundine of a Sheep or Goat to be a great secret, if it be dried and powdered and given in Wine or made up into an Oyntment for the Neck of the Womb. He also commends the head of a Capon dried and powdered, and given in warm bear.

Joh. Primerosius says, it is the secret of some, to swallow the juice of Onyons, and to drink warm Wine after it.

Riverius wonderfully commends the following Decoction;

Take of rose Vinegar eight pounds, Leaves or Berries of Bay three handfuls, a rose Cake left after destillation, cut in pieces. Boyl them in a Kettle, and wash the Hips and Legs a long time with this Decoction-hot, from the twist to the Feet.

Joh. Andreas Smitzius says, that the juice of Lovage drunk with Wine is an admirable secret to bring away the Secundine, the *Menses*, a dead Child, a Mole, and to help Fits.

Joh. Schroder. highly commends the Stomach of a Lamprey for bringing away the Secundine.

Daniel Sennertus commends dittany of Crete, Oyl of Hazle, and prepared Secundine.

§. 22.

THE old Galenists say, the Cure of After-pains consists in opening the Vessels of the Womb, thinning the Blood, and tempering the Acrimony. *Forestus* commends a Decoction of Chamomil Flowers in Beer, and a Decoction of Mugwort. *Riverius* magnifies the following Powder, if it be given immediately after delivery;

Take of Comfrey root one Drachm, Peach stones, Nutmeg each two Scruples, Amber half a Drachm, Amber-grise half a Grain. Mix them. Make a Powder. Let the Lying-in Woman, take one Drachm of it in white Wine; And if she have a Fever, in Broth. Let her use for her ordinary

nary Drink a Decoction of Parsly Roots Mugwort and Cinamon.

If After-pains proceed from bilious Humors, they are cured as the Colick.

§. 23.

Splivus varies the Cure according to the Causes. If the racking and repeated Pains come from an Acid or a Salt, redounding in the Blood and carried to Womb, they must be cured by volatil and aromatick Acids. If the Womb is excoriated, it must be healed by Vulneraries. If the *Lochia* be excessive, by Astringents To which end he uses the famous Mixture for Hæmorrhages, and mixes Vulneraries and Narcoticks together. He injects also Vulneraries with a Syringe. If the Blood of the *Lochia* be serous, he gives Anodynes in Form of Emulsions, and now and then *Opium*. And if the Woman is not very weak, he gives a gentle Hydragogue to evacuate the *Serum*. Then he gives Sudorificks made of Astringents, Roots of Avens, Tormentil, &c.

When the Blood by stagnation is turned acid, he gives things to temper Acrimony, but so as not to encrease the Flux of Blood. To which purpose he gives gentle Aromaticks and astringent Vulneraries, such as Betony, *Scordium*, Golden-rod, Burnet, Vervein, Tansy, Milfoil, &c. Whereto divers Uterines may be added, Majoran, Mountain Calamint, Penny-royal, Rosemary, Garden-Rue, Sage, &c.

When the after-pains proceed from the Suppression of the *Lochia* by external Cold, he gives Medicines to provoke the *Lochia*.

But if, when the *Lochia* come, the Pains remain, then Sudorificks will be proper, neither very aromatick, nor very Astringent, lest the Flux of the *Lochia*, be too much augmented, or stopt. Always add Opiates to things that ease Pains, which promote the Operation of Sudorificks.

If an Inflammation of the Womb arise from the Suppression of the *Lochia*, it must be quickly cured. To this end he commends emollient and carminative Clysters, and Sweats of Crabs Eyes, *Antimonium diaphoreticum*, and Opiates. He is also for emollient and aromatick Fomentations boyled in Water and applied with a Sponge, Linen Cloths or a Bladder. In this Case he bleeds in the Arm or Foot, as he sees occasion. If the Inflammation yeild not to these Remedies, he promotes Suppuration by Emollients, adding the Bulbs of white Lilies and Onyons, first roasted and bruised. Where the Heat is great, he boyls them in Butter-milk; and if the Pains are very violent, in Sweet-Milk. Where Wind is the Cause, he gives carminative and emollient Clysters, made of Boys Urine, which discuss Wind, by reason of the volatil Salt in the Urine. He commends Mixtures of Oyl of Aniseeds, Amber, Mace, Orange Peel, Caraway, Cumin, Fenil, Juniper, &c. not neglecting *Opium*. He hinders the breeding of Wind afresh by Medicines that alter glutinous Phlegm; and when

when Bile offends he gives Cholagogues, and Subacids, especially Spirit of Nitre. If after-pains come from any sharp Humors, they must be corrected and evacuated.

§. 23.

IN our Judgment after pains must be cured by removing the Causes, mitigating the Symptoms, and by recruiting the plattick and animal Spirits. If therefore after-pains be caused by a Suppression of the *Lochia*, things must be given to procure them, lest the extravasated Blood stagnate and putrefie; in which case Medicines of Myrrh, *elixir propriet. simpl. &c.* are proper. Blood may be let in the Foot. If the Blood of the *Lochia* be grumous, or sharp and ferous, then it must be corrected by convenient Medicines; as with Opiats and Astringents mixt. Here is a Receipt;

Take of Powder of Crabs Eyes, Goat's Blood each one Drachm, *antimonium diaphoreticum* one Scruple, *Laudanum Opiatum*, or *theriaca coelestis*, two Grains. Mix them. Divide it into three equal Parts.

If after-pains come from excessive Exulceration of the Parts, then besides divers Vulneraries, Juice of Chervil and its Decoction are proper. The Pain is abated by Opiats, and by Emollients, as with this or the like Mixture;

Take of Water of Penny-royal, Fenil each two Ounces, Treacle simple six Drachms, Crabs Eyes two Scruples, *Laudanum Opiatum* three Grains, Trochiscs of Myrrh one Scruple, Syrup of Mugwort six Drachms. Mix them. Or;

Take of Essence of Myrrh two Drachms, Castor, *Essentia Anodyna* each one Drachm. Mix them. The Dose is twenty Drops. Or;

Take of Saffron half a Scruple, Mace one Scruple, *Tryphera magna* half an Ounce. Give it at twice in warm Wine.

Divers Aromaticks also are good. I have several times cured after-pains with half a Drachm of Zedoary Powder. Old Cock or young Capon Broth is good the three first Days. Externally Emollients are good. Our Women commend blew Paper spread with Deer's Marrow or Linseed Oyl, and applied to the *Abdomen*. Bags and Fomentations, made of Carminatives, Emollients, Anodynes, and Discutients are good.

This following will not be improper;

Take of Seed of Millet, Cummin, common Salt each an Handful and an half. Fry them in a Pan. Put them in two Bags, and apply them to the Navil.

This also is good.

Take of Bay-berries one Ounce and an half, Root of Marsh-mallow

mallow one Ounce, *Calamus aromaticus* two Drachms, Boyl them in a sufficient quantity of Spring Water. Add some Fat of Capons and Goose. Mix them. Make a Cataplasim; Or;

Take of Fat of Bever one Drachm, distilled Oyl of Spike half a Scruple, Amber, Cummin, *Angelica* each six Drops. Mix them.

If after Pains come from an Inflammation of the Womb, then use *Sylvius* his Method.

If from Wind, use Carminatives, and lay a Plaster to the Belly. This following is *Crato's*.

Take two or three Onions boyled a little. Bruise them. Add Powder of Cummin, Chamomil Flowers bruised each one handful, Barly Flour what is sufficient. A little Flour of Linseed also may be added.

Some commend the drinking one Ounce of Chamomil Flower Water, and the applying of Pelitory Leaves fryed with Oyl of Rue to the Belly frequently.

Sennertus commends *Species diacymini* and *diagalangæ* for after-Pains.

Forestus uses a Decoction of Chamomil Flowers in Beer.

§. 24. Cure of the stopt Lochia.

THE Galenists bring the *Lochia* again by forcing Medicines and such as open the Vessels of the Womb. To which end they give emollient, laxative and aperient Clysters. They rub the Thighs downwards, make dolorifick Ligatures upon the Toes, apply Cupping-Glasses to the Groins and Hips, and they bleed in the Foot. Inwardly they give aperient Decoctions, with Cinnamon and Cicers. *Riverius* uses this following;

Take of the opening Roots each two Drachms, Leaves of Betony, Endive, Maiden-hair each one Handful, *Schoenanth* one Pugil, Seed of Anise, Fenil each one Scruple, red Cicers a Spoonful. Boyl them to a Pint and an half. Add to the Colature of Cinnamon Water two Drachms, Syrup of the five opening Roots three Ounces. Mix them. Give four Ounces twice a day.

Before the Fever increases, he gives a Drachm of Trochisces of Myrrh in White-wine or Fenil Water. He says also, that seven or eight days after Delivery a Purge will be good of Infusion of Rhubarb, Agarick or *Senna*, with a loosening Broth made of aperient Herbs and Roots of *Senna*, or an Ounce and an half of *Manna* dissolved in Broth.

§. 25.

Sylvius cures the Stoppage of the *Lochia* from external cold, by giving Medicines presently which dissolve coagulated Phlegm or Blood in the Womb; such as are all aromattick and volatill things, especially Uterines; he also joyns Sudorificks, that they may do the Business the sooner. To this end he commends things that provoke the Menfes. But as soon as a Fever arises, for want of the *Lochia*, he earnestly advises not to be over busie with Aromatticks, lest we increase the Fever: But he rather advises the use of Acids with Aromatticks, as destilled Vinegar, *Aqua Amstelodamensis alexipharmaca* or *prophylactica*, Salt of Vitriol, &c. especially if Crabs eyes, *Antimonium diaphoreticum* and the like, which dissolve coagulated Blood, be added to these Mixtures. If they have been stopt several days, the Cure will be difficult. In this Case he orders Bleeding, and Clysters. He says that Fomentations and Oyntments are good, applied to the Belly.

§. 26.

We have three Indications of Cure. 1. To remove the Causes of the Obstruction. 2. To mitigate the Symptoms. 3. To comfort the Plastick Spirit and the Strength. If it proceed from want of Blood, it may be cured with analeptick Food. If from concrete and grumous Blood, caused by an Acid, *Sperma Ceti*, mixt with

Absorbents will be good;

Take of *Sperma Ceti* one Drachm, Crabs Eyes half a Drachm, white Amber one Scruple, Castor half a Scruple. Mix them. Make a Powder, to be taken at twice in some proper Vehicle.

The following Mixture will be very proper, when there is a Grumescence of Blood from external Cold, and consequently a Suppression of the *Lochia*. *Ettmuller* cured several with it;

Take of *Aqua carminativa*, *Hirundinum cum castoreo*, Water of Bawm each one Ounce, *Antimonium Diaphoreticum* half a Drachm, *Sperma Ceti* one Drachm, Syrup of Cinnamon half an Ounce. Mix them. Let the Lying-in Woman take two or three Spoonfuls now and then.

Here volatil Oyly Salts are good, and all things that are good against the Suppression of the *Menfes*.

If the Stoppage proceed from Pain, then Opiats with Medicines of Myrrh and other Absorbents are good, especially Crabs Eyes. So in a Disorder of the animal Spirits Cinnabarines mixt with Opiats are proper.

If it proceed from viscous Phlegm, obstructing the Vessels, then Aromatticks, things endued with a volatil Salt, and other gentle Aperients are proper: for Instance;

T t t 2

Take

Take of Water of Motherwort, *Carduus benedictus* each one Ounce and an half, Effence of Myrrh three Drachms, *Venice Borax* one Drachm, volatil Salt of Harts-horn nine Grains, Syrup of Mugwort six Drachms. Mix them.

Let the Patient take of this Mixture two or three Spoonfuls often, and lay her self to sweat. For Sudorificks are very good, inasmuch as they incide a Viscid and correct an Acid.

For inciding a viscid Blood it will be proper to give the following Mixture by Spoonfuls;

Take of Water of Chervil, Motherwort each one Ounce and an half, sharp Wine Vinegar six Drachms, Crabs Eyes prepared one Drachm, diaphoretick Antimony one Scruple, Syrup of Mugwort half an Ounce. Mix them. Or;

Take of Spirit of Secundine three Drachms, *aqua hamagoga* three Ounces, Syrup of Cinnamon six Drachms. Mix and give it by Spoonfuls.

Effence of Myrrh is also good made with tartarizate Spirit of Wine. And so is Tincture of the *Scoria* of Antimony. A Decoction of Chamomil Flowers and Orange Pill in Beer, often cures, at least gives Ease.

If cleansing do not succeed, a Decoction of red Cicers with Cinnamon is an excellent Medicine: for it comforts the plastrick

Spirit and expels retained Impurities.

If from Compression of the *Faces* or Tumors, the Tumor must be asswaged, and a Clyster given.

If from a Plethory, you may bleed in the *Saphæna*.

Among Externals I would recommend the following applied to the *hypogastrick Region*;

Take of Oyl of Wall-flowers half an Ounce, dettilled Oyl of Cummin, Juniper each one Drachm, Amber half a Drachm. Mix and use it.

Take of Leaves of Wormwood, Flowers of Chamomil each three Handfuls, Motherwort two Handfuls, Root of Angelica one Ounce and an half, four greater cold Seeds each two Drachms, Juniper Berries two Ounces. Mix them for a Bag.

Also *Emplastrum de baccis lauri*, applied to the *Hypogastrium* will be good.

And since the obstructed *Lochia* may reitagnate into the Mass of Blood, and infect it with a Virulence (for the Particles that come from a cadaverous thing, may hugely taint the Blood) a dangerous, yea, a malignant Fever may be occasioned thereby. Wherefore you must go warily to work, and cause the *Lochia* to return, and add things that resist Putrefaction, and balsamick Alexipharmacks, concerning which you may look in Fevers.

§. 27.

A Mong empirical Medicines *Mizaldus* reckons Juice of Bor-
rage, Apples and Parsley given to
the Child-bed Woman with
Wine and Oyl of Sweet Al-
monds.

§. 28. Cure of Flood-
ing.

THE Cause of Flooding, ac-
cording to the *Galenists*,
consists in the checking of it.
But they give great Caution, that
by over Astringion we cause not
other Diseases; therefore we must
begin with gentle ones. The
Meat must be incrassating, the
Drink, Water, wherein Steel or
Gold has been quenched. After-
wards they advise things that
make Revolution of the Blood
upwards, as Frictions and Liga-
tures of the upper parts, Cupping-
glasses to the Breasts and each *Hypo-
chondrium*. They say also the
Body must be swathed because
thereby the Vessels are compressed
and the Immoderate Flux stopt;
they also advise to apply Linen
Cloths to the Loyns, dipt in Oxy-
crate. If Flooding endanger Life,
they have recourse to more effe-
ctual things, as to Opiats, and di-
vers Powders, and other Forms
of Medicines, which you may
find in other Hæmorrhages. Ex-
ternally they apply divers Cata-
plasm and Unguents: as;

Take of *Unguentum comitisse*
two Ounces, Juice of Plantain
one Ounce. Mix them.

An Injection of Plantain Juice
into the Womb is commended by
Galen. This following is com-
mended by *Riverius*;

Take of the purest Soot of the
Chimney eight Ounces, mix
it with strong Vinegar. Make a
Cataplasm, and apply it to the
Reins.

If these and Opiats will not do
they fly to Venesection, as to the
last, but a present Remedy.

§. 29.

Paracelsus, *Helmont*, and
Willis do in this Case ad-
vise divers Astringents and Speci-
ficks, before mentioned in other
Hæmorrhages.

§. 30.

Sylvius in violent Flooding
caused by Unskilfulness or
Rashness and Hast of the Midwife
in taking away the after-burthen,
advises divers gentle astringent
Vulneraries, such as *Tormentil*,
Bistort, all the *Consolida*, *Myrtle*,
St. John's Wort, *Coral*, *terra si-
gillata*, all Boles, *Dragons Blood*,
Bloodstone, &c. He relies much
upon the following Mixture in
this and all other Hæmorrhages;

Take of Water of Plantain one
Ounce and an half, *antiepilep-
tic. Amstelod.* distilled Vine-
gar each half an Ounce, *Blood-
stone* half a Scruple, red Coral
prepared one Scruple, *Lauda-
num Opiatum* two Grains,
Syrup of *Myrtle* one Ounce.

Ttt 3

Mix

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Mix them. Let the Lying-in Woman take a spoonful of this mixture, shaking it first.

Or she may take the following Decoction;

Take of root of Tormentil, Bistort, each two Drachms, leaves of Comfrey, Sanicle, Winter green, tops of St. John's wort each one handful. Boyl them in steel Water. In twenty Ounces of the Colature dissolve of *Syrupus de Symphyto Fernelii* three Ounces, *aqua Antepileptica*, or *Hysterica Amstelod.* six Drachms. Mix them. Let the Patient drink about three Ounces of this Decoction twice or thrice a day, till the Flooding cease.

Opiats may verywell be added to these things. When they will do no good he is for bleeding in the Arm, to divert the Blood from the Womb. He applies divers external Astringents both to the Belly and Back, as *Unguentum Martiatum*, *Populeum*, *Astringens Fernelii*, *Aureum*, *refrigerans Galeni*, *Emplastrum ad Rupturam*, Oyl of St John's wort, water Lily, Roses, Mastich, &c.

Flooding, that proceeds from too great Laxity, may be cured by Astringents, and gentle Aromatics.

That which comes from an overthin and Serous Blood, may be cured by Hydragogues and gentle Sudorifics.

If Flooding proceed from Food, Physick or Poyson, or if the Blood be thinned with drinking Spirit of Wine, it must be tempered with

Medicines that are Astringent and Watry, with grateful Emulsions, well made with barley Water and Almonds, adding Anodynes, and sometimes Opiats. For which purpose he commends the following Decoction;

Take of leaves of Mallow, Housleek, Night-shade each one handful, Seed of Plantain, Sorrel each two Drachms, Columbine three Drachms, white Poppy two Drachms. Boyl them in fair Water. In twenty Ounces of the Colature, dissolve of Syrup of Purslain two Ounces and an half, Spirit of Salt ten drops. The Patient may take three Ounces of this Decoction several times in a day.

He says, the *Lochia* turn black by plenty of a sharp Acid, mixt with them, and by lying long in the Womb, which makes them stink; then Aromatics, and things that abound with a volatil Salt, are proper. The Blood is pale by reason of much serum, or Phlegm mixt with it.

§. 31.

THE Cure of Flooding in Judgment, differs little or nothing from the Cure of the excessive *Menses*, which you may see. Here we shall only add a few things.

If Flooding proceed from a Plethora, we let Blood.

If from thinness or sharpness of Blood, we correct it with this, or the like mixture.

Take

Take of Water of young Harts-horn three Ounces, juice of Quinces one Ounce, red Coral prepared one Drachm, Bloodstone prepared half a Drachm, *laudanum opiatum* two Grains, Syrup of Raspberry six Drachms. Mix them. The Patient may take one or two spoonfuls of this mixture once an hour. Or in form of a Powder;

Take of burnt Harts-horn one Drachm, *terra sigillata*, Bloodstone each half a Drachm, *Laudanum Opiatum* one Grain. Mix them. Make a Powder for twice. Or in form of an Electuary;

Take of old conserve of Roses one Ounce, *diacydoni sine spec.* half an Ounce, *trochisci de carabe*, *terra sigillata*, burnt Harts-horn each two Scruples, Syrup of Quinces what is sufficient. Make an Electuary.

If a piece of the After-burthen remain behind, and it cause a Flooding, then this will be proper;

Take of root of Bistort two Ounces, leaves of Majoran, Pennyroyal each one handful, boyl them in Water and white Wine what is sufficient. To twenty Ounces of the Colature, add of Syrup of Mugwort two Ounces, Cinnamon water half an Ounce. Mix them. Let the Patient take three Ounces of this Decoction twice or thrice a day. And give the following Powder;

Take of burnt Harts-horn two Scruples, Bloodstone, Cinnamon, Saffron, *borax* each one Scruple. Mix them; make a Powder for twice.

If Flooding proceed from a too great Dilaceration of the Uterine Vessels, divers gentle Astringent Vulneraries will be proper.

Externally in any Flooding a Cataplasim of Soot and Vinegar is good to apply to the Loyns. Or the following Fomentation may be applied to the *Hypogastrium*;

Take of Flowers of Elder, Chamomil, red Roses, red Poppy, Primrose each one Pugil, leaves of Cinque-foil one handful and an half, root of Bistort, Tormentil each three Drachms. Shred and bruise them, boyl them in red Wine. Apply it to the *Pudenda*, and repeat it often.

Several other Astringent Lini-ments and Plasters, mentioned in other places, may be applied. A Linen-cloth dipt in Frog-spawn Water, may be applied to the *Pubes*; and the Loyns may be Anoynted with *Unguentum Santalinum*, *Rosaceum*, *infrigidans Galeni* &c.

Among empirical Medicines, *Joh. Agricola* for Flooding, commends *oleum vini*, with true tincture of Coral. *Lovyse Bourgois* gives the Yolk of an Egg in red Wine. *Jo. Hartmannus* takes fresh leaves of black Hellebore, bruises them a little, makes a Girdle, and ties it about the naked Body. *Valleriola* gives one Drachm

of *Philonium Persicum* in juice of Plantain, and he never found a better Medicine: Externally he commends *Unguentum Comitisse*, with juice of Plantain. *Arnoldus Weikardus* cries up the virtues of Trochiscs of Amber, made with opium. *Gotfrid. in lib. obstetric.* Communicates these following: Conserve of Flowers of *Lysimachia*, or a Drachm of the Flowers in Powder is excellent to stop all Fluxes of Blood. *Pag. 508.* Let Pessaries be made of Cotton, dipt in juice of Horse-tail and Plantain, and strew some Powder of bole Armenick, or Flowers of *Lysimachia*. Put them into the Womb, and keep them a while there.

§. 32. Cure of a Milk Fever.

THE Cure of a Milk Fever is usually committed to Nature, and as long as the *Lochia* come well, this Milk Fever goes off well without Physick, generally in plentiful Sweat. In these Fevers therefore Diaphoreticks are proper, and often do the business; especially if this proceed from the obstruction of the Milk-Vessels. Therefore if the Breasts be swelled with curdled Milk, the following Aromatick and Spirituous Externals will be proper;

Take of the best Spirit of Wine one Ounce, Sal Ammoniack one Drachm, Water of Elder Flowers three Ounces. Mix them, and apply it with clean Cloths. A Plaster of *Sperma ceti*, and Hemlock will be good. When,

upon Weaning a Child, the Milk should be wasted, this following will be proper;

Take of Parsly, Cummin, and Coriander Seed each half an Ounce. Boyl them in a sufficient quantity of distilled Vinegar and Mint Water. Give it.

The Milk also may be drawn at first, by the Nurse, or a young Whelp, or by a Glass; or it may be milked upon the Coals or hot Iron, which, according to *Helmont*, dries up the Milk. Or she may lay Chervil fried in Butter, or a Plaster of Wax and Bole, to her Breasts.

§. 33.

THE Ancients in these Fevers prescribe Mitigaters, and if the strength will bear it, a gentle Purge of Cassia, Manna, or Tamarinds. If there be a *Plethora*, they bleed in the Foot. For food they allow of Barly Cream, or Water, in which Cinnamon and Tamarinds have been boyled.

I shall take the rest of the Causes about Milk out of *Sylvius*, who is as good as all.

§. 34. Cure

§. 34. *Cure of Hardness of the Glands in the Breasts, and want of Milk from thence.*

THE Hardness of the Glands, and want of Milk thereupon is cured (especially if it come from an Austere juice and Grief) by using both inwardly and outwardly Medicines, that abound with a volatil Salt, and Spirituous Aromaticks. Among Internals he commends Waters distilled from Aromatick Plants, with Spirit of Wine, which must be mixt with Water of Mint, Fenil, Bawin, adding convenient Syrups, volatil Salts, Aromatick Oyls, and sometimes *Laudanum Opiatum*. And these Aromatick waters, mixt with a volatil Salt, may be outwardly applyed with Cloths to the Breasts. So Aromatick Oyntments and Oyls are proper. It is good also to chafe the Breasts gently. Volatil Salts correct an austere Humor,

But when the Vessels, which tend to the Breasts are too small, it scarce ever is cured, or very slowly by frequent and gentle rubbing the place, by which the Blood-Vessels pass to the Breasts, with emollient Oyntments and Oyls, as *Unguentum Althææ*, *Mucaginum*, *Nervinum*, Oyl of white Lilies, sweet Almonds, Mans Fat and other Creatures.

If the Ferment in the Glands of the Breasts be dull, it may be cured with the foresaid Aromatick and Spirituous things, abounding with volatil Salt.

If cold occasion want of Milk, he advises Sweats.

If loss of Blood, he orders it to be stopt.

§. 35. *Cure of too much Milk.*

WHEN a Lying-in Woman is troubled with too much Milk, and it is occasioned by a laudable, thin and fluid Blood, it must be made viscid, and she must forbear all Food that is Spirituous, and abound with a volatil Salt, and take things that breed a thick and glutinous juice, such as very juicy Vegetables, Plantain, Purslain, Brooklime, Pears, Quinces, Medlars, &c.

If a plentiful and spirituous lactiferous Ferment occasion it, she must take things to dull and fix the Acid, such as all things that are Fat, Glutinous, Bitter, Watry, and lixivious, fixt Salts.

Cure of depraved Milk.

MILK is depraved, when it is faulty in any Quality.

A yellow Milk is produced by a Tincture of Bile abounding in the Blood, and is corrected by purging the Bile at Intervals. Vitriol corrects its excessive Tincture, especially made of *Mars*, and its Anodyne Sulphur.

A very white Milk from a Phlegmatick Blood is cured by correcting the Phlegm with Aromaticks and volatil Salts, and by Phlegmagogues.

A bitter

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A bitter Milk produced by Bile is corrected as the yellow.

A salt Milk is cured by carrying off the salt *Serum* from the Blood.

A thick one must be incided by Aromatics and volatil Salts.

A thin Milk must be thickened by a prudent and constant use of austere things, mixt with Food.

§. 36. *Cure of curdled Milk.*

THE Milk coagulated by an Acid, is cured by abstaining for the future from Acids, and from using any volatil Salts. Terror and Grief of mind must be avoided. If an Ague-Fit curdle the Milk, he orders Medicines that abound with a volatil Salt, such as *aqua vitæ Matthioli*, *theriacalis simplex*; but in this Case he commends distilled Oyl of Cloves above all. Externally Mint, Majoran, and Rue may be applied.

He commends a Plaster of *Sperma Ceti*, applied to the Breasts which dissolves any Coagulation.

When the Milk distends the Breast, causes Pain, and Inflammation, and threatens Suppuration, then he advises to use Aromatics, both spirituous and abounding with a volatil Salt.

But when by the Pricking in the Breast he finds Suppuration is begun, then Emollients must be joyned with Aromatics, and a Cataplasim of them applied to the Breast; among other things he advises two Onyons. Among Emollients he commends Roots of white Lilies, Marsh-mallow, Leaves

of Mallow, Powder of Line and Fenugreek, &c. In this case he condemns Repellents, for fear of a Gangrene. As soon therefore as Milk is turned to *pus*, which is known by the Abatement of the Pain, Hardness and Heat, unless the Apostem break of it self, it must presently be opened with a Lancet. When tender Women will not bear the Opening of that Part, lay a little *Basilicon* or roasted Figs to the Part; or sometimes a Potential Caustery when the *Pus* lies deep. When the Apostem is opened, and *Pus* begins to run, he puts some Balsam of Sulphur in the Orifice and lays either *Diapalma* or some Cataplasim upon it.

Cure of Inflammation of the Nipples and Breasts.

AN Inflammation of the Nipples and of the Parts of the Breast about them, arising from extravasated Blood, may be cured by emollient Cataplasims, and volatil Salts.

Heat of the Nipples and Excoriation may be cured with Water of Roses, Plantain, &c. with Mucilage of Quince Seeds and Gum Tragacanth, made with the foresaid Waters.

In Exulceration of the Nipples he commends any Balsam of Sulphur and Balsam of Peru.

Cure of an Erysipelas.

IN an *Erysipelas* Chalk and Cream mixt together, and Lime Water boyled with *Mercurius dulcis*, are proper. He also commends Elder- Water.

If the running out of the Milk excoriate the Nipple, he advises a *Lixivium* of Lime.

For the chapping of the Nipples he commends Balsam of Peru and Oyl of Wax.

§. 37. Cure of curdling of the Milk by the Author.

W^e would recommend to a Mother or Nurse the taking some Aniseed or Fenil Seed after every Meal, to keep the Milk from curdling. About thirty or forty Drops of Spirit of Sal Ammoniack in Chervil Water is good inwardly.

Externally a Bag of Rice and Millet, applied hot to the Breasts is good, or a Plaster of *Galbanum*, Saffron and Gum Ammoniack dissolved in Vinegar; or the Breasts may be chafed with this or the like Spirit;

Take of Spirit of Sal Ammoniack made with quick Lime one Ounce and an 'half, Essence of Saffron three Drachms. Mix them. Anoint the Breasts with a Feather.

This following also is excellent;

Take of Mucilage of white Lily and Marsh-mallow and a little Wax and make a *Sparadrap*.

If the Mother intend not to give Suck, that the Milk may not curdle in her Breasts, beside the foresaid things a Cataplasm of the Crumb of Ry-bread well leavened, made up with Powder of Mint, Salt and Rose-Vinegar, will be necessary. And if the Milk be over-thick and coagulated already, Parsly, Chickweed and Chervil will be proper. Or Crane's-Bill or Elder Flowers boyled in Butter, or only warmed, may be applied to the Breasts. Or they may be anointed thrice a day with the following Liniment.

Take of Hen's Grease, Ointment of Roses each one Ounce, Oyl of Violets half an Ounce. Mix them.

Or with fresh Butter and Spirit of Sal Ammoniack mixt together. Or a Plaster may be made of red Lead, Wax and Oyl of Roses. And *Sperma Ceti*, with a little Myrrh and Crabs Eyes may be given inwardly.

Cure of Want of Milk.

IN Want of Milk the things following are proper;

Take of Elder Flowers one Handful and an half, Milk one Quart. Boyl them.

A Decoction of Fenil is also good,

good, and of Elder Flowers, Or *Pulvis Diacrystalli Mynsichti*, or this following may be given;

Take of *Lac Lune*, prepared Crytal each one Ounce, destilled Oyl of Aniseed, Fenil each six Drops. Mix them. Make a Powder, and divide it into six Doses.

If upon a sudden Fright or Anger a Woman find any great Alteration in her Milk, let it presently be milked out, and let her take the following Powder in a Draught of Chervil or *Carduus benedictus* Water.

Take of *Antimonium diaphoreticum* one Scruple, *Sperma Ceti* half a Drachm, Crabs Eyes six Grains. Mix them. Make a Powder for one Dose to cause a gentle Sweat.

If the Glands or Lactiferous Ducts be obstructed, all Diaphoreticks, Incisers, aromack and spirituous things are proper: As;

Take of Water of Penny-royal Bawm, Fenil each one Ounce, Spirit of Sal Ammoniack fifteen Drops, destilled Oyl of Mace, Amber each three Drops, Syrup of Fenil two Drachms. Mix them.

If by an Acid or Austere convulsively contracting the Ducts, the following Powder must be taken often every Day;

Take of Seed of Anise, Fenil each two Drachms, Coriander one

Drachm, Cinnamon, red Coral prepared, native Cinnabar, Earth-Worms each one Scruple, white Sugar the Weight of them all. Mix them. Make a Powder. The Dose is one Drachm.

Aromaticks may be applied to the Breasts outwardly. Sucking is good.

Cure of Sore Nipples.

V V HEN a Salt Milk causes Excoriation of the Nipples, things that correct a salt Acrimony and Opiats are good as *Pilula de Cynoglossa*. Externally we use the following Epi- them;

Take of Water of Elder Flowers, Scabious each one Ounce, *Mercurius dulcis*, *Saccharum Saturni* each one Drachm. Mix them. This Mixture may be applied warm to the Breasts.

When Milk corrupts and turns cadaverous, Sudorificks are good. Here is a Receipt;

Take of Water of Elder two Ounces, *aqua theriacalis camphorata* one Drachm, Crabs Eyes half a Drachm, volatil Salt of Harts-horn six Grains, Syrup of *Carduus benedictus* half an Ounce. Mix them.

Cure of an Erysipelas.

IF an *Erysipelas* arise in the Breasts with Heat and Cold, a redness and pricking Pain in the Breasts, Diaphoreticks are proper: for Instance;

Take of Water of *Carduus benedictus*, Elder-flowers each one Ounce, Mandible of a Pike, *Antimonium diaphoreticum* each half a Drachm, Syrup of red Poppy six Drachms. Mix them.

Among Externals the Vulgar commend the inner Rind of Elder with Flower, or Chamomil flowers and Bran applied hot to the Breasts. Treacle and Elder Water would be better; for moist things do no harm as the Vulgar think, if they be but applied hot. They that care not for moist things may apply Elder Flowers sprinkled with Spirit of Wine, or the following Plaster;

Take of Treacle one Ounce and an half, Salt of Wormwood one Drachm and an half. Mix them.

Take *Pulvis Erysipelatis Mynsichti*, sprinkle it well with Spirit of Wine, and apply it.

Cure of an Inflammation.

IN an Inflammation a brown Paper spread with Virgin Honey may be applied, or a Cataplasim of Bean-flower, boyled in Oxycrate.

In an Inflammation with great Pain in the Breasts, the following Cataplasim will be proper;

Take of Root of Marsh-Mallow, Parsly each one Ounce, Leaves of Marsh-Mallow, Hops, Dill, Hyssop each half a Handful, Flowers of Elder, St. John's Wort each two Pugils, Rape Oyl by Expression one Ounce (or beat the dry Seed very fine.) Boyl them in a Sufficient Quantity of Butter-Milk. Make a Cataplasim and apply it to the Breast affected and repeat it often, unless the Patient cannot endure fat things.

In a schirrhous Tumor, *Emplastrum diachylon magnum* and Gum Ammoniack dissolved in Vinegar is proper. *Emplastrum de Ranis cum Mercurio* is excellent in this case.

If a Tumor, Pain, and Hardness in the Breasts supervene, and you fear an Inflammation, give the following Powder. I have hitherto found it successful;

Take of Harts-horn prepared without Fire one Scruple, *Antimonium diaphoreticum* half a Scruple, volatil Salt of Vipers

Vipers five Grains. Let the Patient take it in a sufficient Quantity of Elder-flower Water.

If the Nipples are chapt, so as that a sharp *Serum* ouzes out, this following will be good.

Take of Leaves of Betony, Speedwell, green *Origanum* each what you please, fresh Butter what is sufficient, a little Rhenish Wine. Boyl them to the Consumption of the Juices, then strain them through a Linnen Cloth.

In these Chappings the following Liniment will be proper ;

Take of Hen's Grease, Turpentine each two Drachms, Gum Tragacanth half a Drachm, Galls three Drachms, a little Wax with a sufficient Quantity of Oyl of Roses make a Liniment.

Abscess.

AN Abscess is very difficult to cure. We shall only recommend what *Sylvius* has experienced.

Among empirical Medicines take these following.

Cunrad Kunrath medull. destillat. commends the following Plaster for drying up the Milk.

Take of Ry-Bread a sufficient Quantity, Salt half as much, Boylthem in water into the form of a Cataplasim, which must be applied hot to the Breasts, and often repeated.

In abundance of Milk *Hier. Mercurialis* orders the Breasts to be washed in Vinegar. He orders the Application of Broth and Vinegar wherein Cummin is boyled : Or ;

Take of Seed of Fleawort, *agnus castus* each two Drachms, Cummin one Drachm and an half, *alumen scissile* two Scruples. Boyl them to a fourth, always stirring them.

Ludovicus Mercatus found this always very beneficial, which is made of an Equal quantity of fresh Butter and Turpentine, washed in Wine and Rose Water. He says also that Oyl, in which Radish thin sliced has been boyled a long time, is of great Moment. *Pulverinus* commends a Plaster made of three Eggs, a Scruple of Saffron, and Wax what is sufficient. *Varignana* accounts it a Secret to anoint the Nipples with juice of Plantain.

In the curdling of the Milk *Aëtius* commends this following ;

Take of Wax one Ounce, Purslain one Ounce and an half, Oyl of *Sesamum* one Drachm. Mix them.

Rodericus à Castro says, that Garden Parsly bruised and laid to the Breast is good. Others commend *mentha crispa*, bruised, and applied to the Breasts, and often renewed. *Dodoneus* highly commends Hare's Runnet applied with a little Vinegar and Butter,

Butter, or some Oyl for dissolving coagulated Milk. *Henr. ab Heers* gives Calves Runnet and Salt dissolved in Vinegar and warm Water. *Jos. Quercetan* commends Rew bruised with Vinegar, and applied to the Breasts. *Riverius*, when all other things fail, commends a Drachm of prepared *Millepedes*, taken in Broth for two days.

In Defect of Milk *Joh. Agricola* commends the Liquor of Flints. *Forestus* commends Milk boyled with excoriated Barly: his Wife tried it. *Phil. Grulingius* commends this;

Take of Seed of Meadow Trefoil, Anise, *Sesamum*, Fenil, Poppy, each half an Ounce. Mix them. Make a Powder. The Dose is a Drachm with Wine, or a Decoction of red Cicers.

-Herlicius magnifies *Confectio Seminis Carvi*. *Joel* commends this following;

Take of Seed of Fenil, Anise, Parsnip each half an Ounce, Line one Drachm, Cinnamon two Drachms, Sugar candy one Ounce and an half. Make a Powder, the Dose is a Drachm and an half Morning and Evening in Wine.

Joh. Stokerus highly commends Linden Tree flowers boyled in Milk. *Thurnhauserus* commends Oyl of Root of Cretan *darcus* to be drank. *Varignana* found Lettuce, boyled in Barly Water admirable. *Marc. Antonius Zimara* highly values a Drachm of the Hoofs of the Fore-Fet of Kine burnt to Powder, and taken in Broth or Wine.

C H A P. IX.

Of the Green-Sickness.

§. 1.

THIS Disease is called *Chlorosis* from *χλωρὸς*, a whitish Green. It is also called *Febris alba*, *Morbus Virgineus*, *pallidi Virginum colores*, and *Icterus albus*, from its likeness to a Jaundice. It is a sort of *Leucophlegmatia*. It is generally described to be, *A vitious Habit of the Body, arising from Obstructions of the Veins of the Liver, Spleen and Mesentery, but especially of those about the Womb, with a dulness in the Limbs, Palpitation of the Heart, Shortness of Breath, Appetite to absurd things, &c.* It might better in my Opinion be described thus, *It is an Uterine Disease, produced by the Oppression of the Plastick Spirit, and the Thickness and Acidity of the Blood, obstructing the Capillary Vessels of the Womb, with a Dulness of animal Spirits.*

This Disease is much of the same Nature with a *Leucophlegmatia*, *Cachexy*, and *Longing*, and is almost under the same Cause and Cure.

§. 2. *Part affected.*

THE Subject by the general Consent of Authors is reckoned to be the Womb, with the rest of the Bowels where Obstructions can be made.

§. 3. *Diagnostick.*

NOW we must show, how the Enemy may be discovered invading the Plastick Spirit. The Colour of the Face and whole Body is Pale and Whitish, and sometimes Leadens, Livid and Green. It is usually attended with a Swelling and Inflation of the *Hypochondria*, a spontaneous Lassitude of the whole Body, the Legs swell especially about the Ankles, the Body looks soft and flabby, they cannot go up a Pair of Stairs, or stir, but they are out of Breath; they have usually a Palpitation of the Heart, with a Pulsation of the Temporal Arteries, the Pulse is sometimes so quick, that they seem to be in a Fever, and therefore it is called *Febris alba*, they have a dull and lasting Head ach, they are very sleepy

sleepy and dull about every thing, and by Reason of a depraved Acid in the Stomach, they sometimes loath their Victuals and long for absurd things, and then generally their *Menses* are stopt. They are not very thirsty, they are troubled with Belching, the Belly swells after Meal, they have a Rumbling in their Guts, are Squeamish and generally Costive. All their Excretions are crude and phlegmatick. They are ordinarily cold, unless when they have a Flushing, which they often have. By these Signs you need not doubt of the Disease.

§. 4. Cause.

THE old Galenists do here blame Obstructions of all the Veins, especially of those about the Womb, which are caused by gross, viscid and crude Humors, bred usually of a bad Diet. You may see several Authors in the Chapter of *Leutophlegmatia* and Cachexy.

§. 5.

IN Our Opinion the Green-sickness arises from Phlegm a little too acid, and oftentimes from a vitious and corrupt Liquor proceeding from the vaginal Glands of the Womb, disturbing the *Crisis* of the Mass of Blood, and oppressing the plastick Spirit. Hereupon the whole Mass of Blood is slow in Fermentation, and sometimes turns sharp, as may appear by the Symptoms which make them look as Pale as Death.

Swelling and Inflation of

the *Hypochondria* in this Disease do frequently arise from Wind raised by a vitious Gas, which distends the Cavities of the *Abdomen*, and by forcing the Diaphragm upwards cause, shortness of Breath, which is increased by Exercise, because then the Humours grow hotter, and dilate and rarefie, and so make all worse.

A spontaneous Lassitude of the whole Body arises from the *Torpor* of the Plastick Spirit, and from the Paucity and Viscidity of the animal Spirits, which stick in the Mire of the Womb, and cannot extricate themselves, and therefore are insufficient for much Exercise. Lassitude may also arise from the Obstruction of several Nerves in the Muscles all the Body over, so that few animal Spirits can get into them, and so the Limbs are unable to stir. If there be vellication, as sometime there is, there must be some Acrimony in the gross Blood which occasions it.

Pain of the Stomach and depraved Appetite proceed from a viscous Acid, and from the Weight and unusual roughness of absurd Aliments.

Maids are often tormented with Rumbling in their Guts, because they lace themselves too strait, and so by a violent Compression shut the Pores of the Body, and pen up the Wind.

U u u

§. 6.

§. 6.

EXternal Causes are, taking cold in their whole Body, but especially in their Hands or Feet, Intemperance in Meat, Eating absurd things, Chalk, Rice, raw Turf, Crabs Eyes, dry Crufts of Bread, Nutmeg, Vinegar, Juice of Limons, Limons, Oranges and Summer Fruits, all which enervate the Ferment of the Stomach and other Parts. Excess in Sleep and Rest, Grief, Stoppage of Excretions, Costiveness, and Suppression of the *Menses* cause it: and sometimes it is Hereditary.

§. 7. Prognostick.

IT is no dangerous Disease, when it has not been of any long Continuance: for when it is grown inveterate, it may prove the Cause of several Diseases, as Dropsies, Barrenness, &c. The Aphorism of *Hippocrates* Sect. 5. 36. may have reference to this place; *When a Woman's Menses are discolored, and come not in the same Measure, nor at a certain time, it indicates that Purging is necessary.* There is great Hope of Recovery, when the *Menses* keep their constant times. and are right in Quantity and Quality. If it proceed from the Obstruction of the Veins of the Womb, then in young Maids it is cured by Marriage.

§. 8. Cure.

THE *Galenists* endeavour to open Obstructions by cutting and carrying off the Phlegm and by strengthening the Bowels. The things that open Obstructions you have before in Obstructions of other Parts. First they give a Clyster, and a gentle Purge. Then they let Blood, if the Disease be young and the Maid sanguine. Then they give opening and purging Apozems, and when they have done Purging they use Bathing as the last Remedy. And lastly they strengthen the decayed Inwards.

§. 9.

IF you would have ~~Our~~ Cure, this is it. You must endeavour to excite the animal Spirits, to correct the acid viscous Humors, to carry them off, when corrected, and to take care of the Stomach. And to go orderly to work, you must begin with cleansing the first Ways; if there be an acid Load in the Stomach, you may safely give a gentle Vomit; or if the Patient be against Vomits, purging Pills, especially made with Gums, adding Saffron, Vitriol, fixt Salts, *Mercurius dulcis*, &c. I have given the following Physick with Success;

Take of Leaves of Bawm, Rosemary, Penny-royal, Nep each half an Handful, Root of Elecampane, *aristolochia rotunda*, *Angelica*, Bryony each two Drachms,

Drachms, Leaves of *Senna* one Ounce, Root of black Heleboe prepared two drachms, white Agarick half an Ounce, Orange Peel, Seed of Cardamom, *Daucus* of Crete each one Drachm, Filings of Steel tied in a Cloth one Ounce, true *Cassia Lignea* two Drachms. Bruise and break them, and put them into a Bag, for a Measure of white Rhenish Wine. The Dose is three Ounces, when there is occasion, in a day.

All things are good here, which we mentioned in the Defect of the *Menses*, especially Martial Medicines. I have cured the Green-Sickness with this Steel Wine alone;

Take of Essence, or Extract of *Mars* one Ounce, *Cassia Lignea* two Drachms, choice Cinnamon one Drachm and an half, Cloves one Drachm, Rhenish or Sack one Quart. Let them stand in Digestion in a warm Place for two days; then strain it through *Hippocrates* his Sleeve. The Dose one Ounce.

Crato commends the following Electuary;

Take of Filings of Steel prepared with Vinegar six Ounces, Cinnamon, candied Nutmeg each three Drachms, Rhubarb two Drachms, *Species aromaticæ rosatæ* two Drachms, Honey and Sugar each one Pound and an Ounce. Mix them. Make an Electuary.

Riverius cured several Maids and Women of the Green-Sickness by the use of *Pulvis cachecticus*. And *Sennertus* holds that Steel is one of the best Medicines.

§. 10.

IN this Disease you must for some time continue giving inciding, attenuating and opening things, volatil and fixt Salts, aromack Oyls, and mineral Powders will be proper, adding Stomachicks and Uterines. The following or some such Mixture may be given by Spoonfuls;

Take of Water of Mint, Orange Peel or Rosemary, or Majoran each two Ounces, *Aqua Vita Matthioli*, or *Spiritus carminativus Sylvii* one Ounce, *Antimonium diaphoreticum* half a Drachm, Spirit of Sal Ammoniack twenty Grains, some aromack or carminative Oyl six Drops, Syrup of Mint one Ounce. Mix them.

For taking away the ill Colour, *Peter Johannes Faber* commends Quintessence of Nep.

All bitter things are good, such as Tincture of Wormwood, lesser Centaury, Scurvy-grass-Water, Agrimony and *Elixir proprietatis*. Here all things are proper also, which imbibe and sweeten a viscous Acid, and strengthen the Plastick Spirit. The following Powder will be useful for that Purpose;

Take of *acidum tartari Mynsichti*, Crabs Eyes, *Crocus Martis* each one Scruple, Oyl of
 U u u 2 Cloves

Cloves four Drops. Mix them for three Doses. Give one every Morning and Evening.

When the Humors are corrected and evacuated, the Reliques must be thrown off by Sweat, by Internals; and if they will not do, by Stoves, Baths, Frictions, &c.

The Inwards, and the Stomach especially, must be strengthened both by Internals and Externals. If it proceed from too small Veins, and the Patient Venereal, advise Marriage.

Lud. Mercatus, when the Spleen being obstructed causes

the Green-Sickness, commends an Oyntment of *Elstridge's Fat*. He also recommends to melancholick Women Bezoar and *Scorzonera* Root, infused all Night and drunk in the Morning.

Joh. Varandæus commends the following Pills;

Take of Juice of *Mercury*, clarified Honey each one Ounce, boyl them to a sufficient Consistency. Add of Roman *Nigella* powdered three Drachms. Make a Mass; and make one Drachm into six Pills. Let her take two going to Bed, for three days.

C H A P.

C H A P. X.

Of a Furor Uterinus, and Women's Melancholy.

§. 1.

AMong other strange Symptoms, which afflict the Female Sex, a *Furor Uterinus* is one, which may very well be called *Nymphomania*, *Priapismus Fæminarum*, *Melancholia Mulierum*, *Uteri Deliramentum*, &c.

Description.

THIS Disease is commonly thus described, viz. *An immoderate Desire of Venery, making Women almost mad, proceeding from abundance, Acrimony, and a peculiar Quality of Seed, or, in my Opinion rather, A Delirium, with fierceness and boldness, but especially with a preternatural desire of Venery, arising from a Turgescency of animal Spirits in the Parts allotted to Venereal Actions, and enraging the plastick Spirit.*

§. 2. *Part affected.*

IN these Diseases the Brain and animal Spirits are affected by Consent with the genital Parts and the Womb. For the Reason why they are delirious, is because the genital Parts about the Womb are continually irritated. So that while they think and talk of nothing but Venery, they go quite besides themselves. Young Widows and Maids of a hot and melancholick Complexion are chiefly subject to this Disease.

§. 3. *Diagnostic.*

ALthough this Disease, when inveterate, need no Signs, as being easie to be known by Dotage, and Discourse, which tell it; yet one beginning is very Latent in modest Women, and cannot be known but by a Prudent Conjecture. However you may know it by Sadness, Silence, Tears, a small, weak and slow Pulse, and now and then quick, that is, if there happen to be any Discourse of Love, or a handsome young Man. So you may guess

at it by down-looking, swollen, rolling, and sparkling Eyes, a sudden alteration from sadness, at the mentioning of Venereal Matters, by bursting into Laughter upon it, blushing and then turning Pale. When the Disease grows worse, they can scarce forbear immodest Speeches and Actions. They talk disorderly of those they Love, they Frisk and Dance, and show by their Gestures, what it is that troubles them. They embrace Men, kiss them, behave themselves impudently, and like Melancholists, fancy strange things to themselves.

§. 4. Cause.

THE Galenists say, that in this Disease, the Seed matures and acquires a Malignant quality, which occasions these Symptoms. Some of them blame the Acrimony and Turgescence of Seed, which provoke excessively to *Venus*. They give several external Causes, which are Provocatives.

§. 5.

VVE think, that the Plat tick Spirits about the genital parts, make such an impression upon the Brain, and do so open its pores, that there appear no other *Idea* but those of Lust. Now the Causes, which irritate the Plat tick Spirit, are Youth, bilious Constitution, the abundance and Acrimony, especially of the genital Humor in the Cervical Glands, whether Salt or Acid, and Plenty of Spirits by reason whereof they are incited to

Venus. The external Causes, a hot and dry Air; hot, salt, sharp, acid, and aromatick things, Diureticks and Menagogues. Long Watching, and an idle Life may contribute for;

Otia si tollas, periere cupidinis arcus.

Remembrance of Venereal matters, Tying, Dancing, feigned Courtship, and the like.

§. 6. Prognostick.

THIS is a miserable Infirmity, both because it can be but slowly cured, and it is a blot to honest Families: for they cannot well resist the titillation (yea sometimes the violence of the Disease is such, that before People they will invite Men to lye with them, and call Venereal matters by their broad Names.) And finally this Disease sometimes degenerates into a *mania cephalica*.

§. 7. Cure.

THE Galenists endeavour to take off the hot intemperature of the inwards, especially of the Womb, and also of the Blood and Seed. To this end, they Bleed, and give things gently to Purge Bile and Melancholy, they superadd juleps to prepare the Humors, and open moderately; afterwards they advise strong Purgers, which you may see in Madness. Then they give things to cool the Womb, and the whole Body. They commend Baths made of cooling things, such as Purslain, Lettuce, Water-Lily, Willow,

Willow, Roses, Violets, &c. They advise the drinking of Whey. To all these they add things that have a specifick virtue to extinguish and cool the Seed. All Refrigerants are good for it.

R. verius commends the following distilled Water ;

Take of leaves of Water-Lily, Willow, *agnus castus* each two handfuls, Lettuce, Purslain, *Venus-Navil* each one handful, the four cold Seeds ; Lettuce, white Poppy each half an Ounce. Bruise all fresh, and sprinkle juice of Limons on them. Distil them in *Balneo Mariæ*, and to every pound of Water, add one Drachm of Camphire.

Emulsions are usually made of these four Seeds, which are of more efficacy. They prescribe Opiates. They neglect not Clysters and Injections into the Womb.

Externally they apply cooling Liniments to the Loins, *Pubes*, and *Perinaeum*, and they order a Plate of Lead to be worn continually upon the Loins. They make an injection into the Womb of Whey, or Barly water, with a little juice of Night-shade, Housleek or Hemlock.

Finally, they think all that is good in a *mania*, is good in this case : for they say, the Brain must be taken care of.

§. 8.

IN *Dar* Opinion, the Cure must be begun with the Regiment of the Non-natural things. The *Air* must either be, or be made,

Cool and Moist. The Food for a time must be Watry and Insipid, the Drink must be small. Sleep must be procured, and Rest must be ordered ; but so as not to exceed bounds. Excretions must be promoted. And the Mind, as far as possible, must be diverted from Venereal matters, and wanton discourse. On the contrary, they must be perswaded by reason, to keep within bounds of Modesty.

When the Diet is thus ordered, if Blood abound, Bleed, Correct and Purge the sharp juices. For correcting the sharp Humors, Watry, Oily, Earthy and Narcotick Medicines are good, as, Emulsions, Juleps, Electuaries, Conserves, &c. for instance ;

Take of Seed of Hemp one Ounce, Lettuce, Purslain each one Drachm, four greater cold Seeds each one Scruple. With a sufficient quantity of *Nymphaea-Water*, make an Emulsion, and sweeten it with Sugar of Roses. Or,

Take of Water of Lettuce, Flowers of water-Lily, Borrage or Bugloss each six Ounces, *Sal prunellæ* two Scruples. Mix them. Make a Julep. Or,

Take of Flowers of Water-Lily, Roses each one handful, leaves of Lettuce, Purslain each two handfuls, Seeds of *agnus castus*, Plantain each three Drachms. Boil them in Water. To twenty Drachms of the Colature, add of Cinnamon Water six Drachms, Spirit of Nitre eighteen drops, Syrup of Water-Lily two Oun-

ces. Mix them. Make an Apozem. Let the Patient drink three Ounces, twice or thrice a day.

Essentia castitatis, *Saccharum Saturni*, and Camphore are good Medicines; for example;

Take of *aqua castitatis* five Ounces, *Saccharum Saturni*, Crystal each one Scruple, *Syrupus Nymphaeae* one Ounce. Mix them. Take a spoonful often in a day.

Here also, to correct the vitious genital Liquor in the Glands of the Womb, and to strengthen the Glands, all catarrhal Balsamicks are good, such as Myrrh, Mastich, Frankincense, Camphore, Amber, &c. To evacuate the Humors, which are generally Serous, Hydragogues are good, such as Jalap, &c. and sometimes Chologogues; for instance;

Take of Water of *Nymphaea* half an Ounce, *pulvis Catholicus purgans* one Scruple, Syrup of Water-Lily three Drachms. Mix and give it. Or,

Take of *Pilula de fumaria* one Scruple, Resin of Jalap four Grains, *Saccharum Saturni* four Grains. Mix them. Make Pills.

It is good, in this case, to put Coolers, such as Nitre, and *Sal Prunellae*, in Purges.

In the mean time, at Night Anodynes and Narcoticks may be prescribed of Treacle, Mithridate, *Diafscordium*, *Pilulae de Styrae*, *Laudanum Opiatum*, &c.

The Womb must be cooled by cooling and astringent Injections, made of leaves of Mallow, Marsh-Mallow, Water Lily, Savine, Lettuce, Purslain, Housleek, Vine, &c.

Baths of cold Water are good. And the Womb may be washed often in cold Water, wherein *Sal Prunellae*, and *Saccharum Saturni* have been dissolved.

The Loins may be Anointed with Oyntment and Oyl of Roses, adding cooling juices and a little Camphire;

Take of *oleum Nymphaeae* one Ounce, Oyl of Rew three Drachms, *Saccharum Saturni* one Scruple. Mix them. With this Liniment, Anoint the Loins and Genitals.

A Pessary of *Emplastrum de cicuta* is good.

If none of these things will do, the Patient, if she may, must Marry a lusty Man. For it is but turning the Tables, and what advice the Poet gives Men, may be taken by Women. viz.

*Ureris? Uxorem ducas, non expedit uri,
Conjugis in gremio mortificanda
caro est.*

B O O K VI.

Of Children's Diseases.

C H A P. I.

*What must be done in the Month, and afterwards
of their Diet and Education.*

§. I.

Certainly, if any one, our divine Hippocrates is Sollicitous for the Health of Children, in divers of his Aphorisms saying; *Such things as these befall Children new Born, Thrushes, Vomiting, Coughs, Watching, Fear, Inflammation of the Navil, running of the Ears. When they are Elder, and begin to breed Teeth, Itching of the Gums, Fevers, Convulsions, Loosnesses, do trouble them most that breed their Eye-teeth, and such Children especially as are Gross, and Costive. When they are grown up a little; Luxations of the Tonsillæ and*

Vertebræ inward, Asthma, Stone, Worms, Warts, Strumæ, and other Swellings, but especially the foresaid. When they are bigger, and near Pubescence. Many of these things, and tedious Fevers, and and bleeding at the Nose, and many Diseases are judged in Children, some in forty Days, some in seven Weeks, others in seven Years, some when they come to Pubescence, but such as remain, and terminate not at Pubescence in Boys, and when the Menstrua come in Girls, last all ones Life. And many Diseases more may be added, as you shall hereafter see.

§. 2.

W^e will first consider, how a Child may be hurt in Nutrition by Milk. When the Midwife has done her Office to the Child, it is laid to the Breast, from whence it sucks Milk, for the first two Months, every two Hours; after three or four Months, every six hours; after six Months, twice or thrice a Day. When a Child has been thus suckled for a year or more, towards the latter end you must use it to Drink, till it is quite Weaned from Milk, though many Women suckle their Children two years; and some few, three. And while they do suckle them, they give them Pap of Wheat-flower, and Milk. This is the usual way of Nursing, in which several Diseases arise, so that we may truly say with wise *Solon; Man is Putrefaction in his Birth, A Bubble all his Life, Meat for Worms at his Death.* We will premise something concerning the Recrements, that are gathered by Children in their Formation and Nutrition in the Womb, by some called *Meconium*, which lie in their Guts, and unless this blackish green Excrement be timely voided, it often proves fatal to Children.

§. 3. Cause.

V^e Question not, but this Excrement has its Original from the Child's Nourishment, which the last days, it takes by the Mouth, and when it is kept longer than it should, it turns acid. Hence it is the Cause of the Gripes, Fits, and sometimes of the Jaundice. Therefore *Ettmuller* says, *Meconium* is nothing but a crude Cheese, sequestered, and as it were precipitated, from the rest of the nutritive substance. For since it arises from a kind of Milky Nutrient of the Child in the Womb, which more or less retains the Acidity, which it has once contracted from the Stomach, when it meets with Bile in the Guts, they together turn into a dark greenish black Colour, and by tarrying long in the Guts, it bakes harder. Wherefore Physicians, Nature's Servants (since Nature in her ordinary Method does quickly, sometimes at the very Birth, evacuate these Excrements by Stool or Vomit) do very well, before the Child sucks or eats, in giving it Oyl of sweet Almonds, mixt with Manna, or with some Laxatives, either Syrup of Cichory with Rhubarb, or Syrup of Buckthorn made with Honey, adding Crab's Eyes, which *Ettmuller* highly commends, for evacuating the *Meconium*, that would turn sowre and curdle the Milk in the Childs Belly. Our good Women do give (and they do very well in it,) *pulvis Marchionis* or *pulvis cephalicus D. Michaelis*:

Michaelis : for they are of an imbibing and precipitating Faculty. And because oftentimes Medicines cannot be had, therefore provident Dame Nature, hath furnished the Mother with a serous Milk (the *colostrum* or Beestings) certainly a Medicamentous Aliment, which for the first days being sucked by the Child, because of its Serous Saltness, Purges. Therefore Mothers take no good course with their Children, who put them to others to nurse, especially to such as have a thick and an old Milk. If therefore they are not purged by the Milk, give them the foresaid Purging and Imbibing Medicines.

§. 4.

THE Mothers Milk is the most natural Food for Children. Wine and things sweetned with Sugar, because they contain an Acid in them, are not proper for a Child's ordinary Drink. A good Milk is white, Sweet in Taste, pleasant in smell, and of a moderate Consistency. On the contrary it is bad, when it curdles and turns Sowre. If it is Yellow and Bitter, it argues Bile; a Blackish or Blew denotes an Acid. So a Sharp or Salt Milk is bad, arising from the like *Serum*. But there are several insensible faults also, that spoyl the Milk. For it has been observed, that not only the morbid natural qualities are communicated by the Nurses to the Children, but even the Moral, as *Etmuller* and my self have seen. Nay, brutal properties and manners get with the Milk into the Child, as it has been observed in Children brought

up with Hind's or Goat's Milk. See *Reyes camp. elys.* 9. 47. A bad Milk may easily offend the tender Fibres of a Child's Stomach, may cause Gripes, a Loosness and several other Ails. A Serous Milk, Causes, Loosness, and Scabbiness, a Caseous Milk, Costiveness, want of Appetite and Vomiting; a Yellow and Sharp Milk, Vomiting and Loosness, and Pustles.

§. 5. Cure.

HOW Want of Milk may be supplied, and its ill qualities Corrected, we have observed before in Diseases of the Breast. It is sufficient to suckle a Child two years at the most; and neither Mother nor Nurse, when they have Conceived, must give Suck, but the Child must be weaned, and used to solid Food. If the Mother cannot give her Child Suck, she must get a Nurse; but if she be able, it is best for the Mother to give her own Child Suck. A Nurse must be of a good Habit of Body, a middle Age, well coloured, Honest, neither a Glutton, nor Drunkard, one that has born two Children at least, and brought them up. She must not be diseased, because the Nurse's Diseases are communicated to the Child. She must observe a good Diet. Let her take especial care of Purgers and Acids, which may vellicate Children's tender Fibres in their Stomachs, cause Gripes and Convulsions. Wine and Spirituous Drinks are naught for Nurses. She must avoid an Intemperate Air, immoderate Watching, and too much Rest and Sleep. Her

Meat

Meat must be of good Juice, and easie Concoction; if the Nurse is a Country-Woman, her Meat must not be Dainty, for it is worse for her Stomach than her accustomed Food. She must forbear Cheese, because it is apt to curdle the Milk in her Breasts, also Salt and Aromatick things, Pulse, Salt Fish, but especially Vinegar and Acids, which is often the occasion of Fits, as *Sylvius* has observed, and Beer not well boyled or wrought, because it spoyleth the Ferment of the Stomach, and Causes Looseness, and Gripes. Let her avoid all violent *Passions of the Mind*, for by disturbing the animal Spirits, the Nervous kind, and through their means the Mass of Blood, and the rest of the Humors in the Body, they alter, and by the same means corrupt the Milk: But especially let her avoid Fright and Anger; therefore her Domesticks must give her no occasion. *Ettmuller* gives a notable instance of a Fright. He says, "A Child-bed Woman was 'heartily frightened', but presently 'as soon as she was come to her self, she made a Whelp draw her 'Breasts, lest the altered Milk 'might hurt the Child, presently 'the Whelp fell into Fits, but by 'giving it Treacle, after a long 'Sleep the Fits went off. I have seen three Examples. Anger is as bad. For both of them disturb Digestion. Nurses do ill in giving the Child Suck too often, for so they kill it with kindness. As to the *excreta* and *retenta* they must all be in order. Neither Nurses nor Women with Child must give Suck: for as often as a Nurse has her *Menjes*, an alteration may be found in the Child. But a strange

alteration is made in the Milk, when the Nurse is with Child: for then a corrupted Milk is bred, which makes a horrid impression on the Child. It turns to Cheese in the Childs Stomach, which may make the Child rue it all its days. *Ettmuller*, *Schockius*, and *Digby* give this as a Cause of several Men's hating Cheese. Therefore let such as give Suck keep from their Husbands.

§. 6.

NOW also we must say something of Children's Food. And the good Women should be admonished, who in the first Months, make Pap of Meal, Milk and Sugar, and feed their Children with it, which Pap, as *Ettmuller* says, is fitter for a Book-binder to past his Books withal, than to eat. For it loads the Stomach, this spoyleth the first Concoction, and consequently the second and third. *Hildanus cent. 8. obs. 6.* observes a most dangerous obstruction of the *Pylorus* by such glewy Pap. Wherefore it is best the first four Months, for the Children to be content with the Mother's Milk only: Afterwards they may eat Broth. Nurses also do very ill by Children, in chewing their Viſtuals in their own Mouths, to soften it with the Spittle. Hereby several Diseases may be communicated to poor Children.

All Childrens Diseases proceed from an Acid, and a Viscid. The *Galenists* blame a Gross and Acid Phlegm. The *Paracelsists* an Acid Salt or Tartar. We call it a *viscous Acid*. All Medicines therefore that correct this, are good in Children's

Children's Diseases, as all Alkalies, both Volatil and fixt, all Aromaticks, Saline Volatils, especially oleous Volatils, *Spiritus salis Ammoniaci Aromatizatus*, *Anisatus* or *Cariophyllatus*, *liquor cornu cervi succinatus*, which are good both for the Nurse and the Child, in a convenient Vehicle. Three or four drops may be given in Water of Mint, Fenil, or in the Mother's Milk. An Acid is also strangely destroyed by Sharp, Aromatick,

volatil Salts, such as Aniseed, Castor, &c. Myrrh, Amber, and Native Cinnabar, imbibean acid. Among fixt and earthy things there are Crab's Eyes, Coral, Pearl, Bezoar, Ivory, Fossil Unicorn, *pulvis Polychrestus Ettmulleri*, who is as good as all in his *tr. de infant. valetud.* where all Children's Diseases are ingeniously and truly derived from an Acid. These are Generals, we will descend to particulars.

CHAP.

C H A P. II.

Of the Jaundice.

§. I.

Children not only after they are born, but when they are in the Womb are infected with the Jaundice. Yet it usually comes after the Child is born; it will continue a while, and then strike in again. It shows it self by the Skin's being as Yellow as Saffron, when not only the whole *superficies* of the Body, with the Whites of the Eyes; but the Fat, and fleshy parts, the Membranes, and *Parenchymata* are tinged. This Disease may sometimes be known by the Yellowness of the Urine, which turns Clothes Yellow, and by the Stools being White.

§. 2.

Sylvius thinks, in Children the Jaundice may often come, without the obstruction of the biliary Duct, that is, from the Spirituosity, and therefore ineptitude of the Bile to ferment.

we deduce the Cause of this Disease from Bile, or too many Sulphureous Particles in the Mass of Blood. Wherefore Children born of Mothers who give themselves to drink Spirituous and

Volatil things, to wit, Brandy, Sack, and such things, as soon as they are born, have the Jaundice. Without doubt therefore a volatil and sharp Bile, may cause the Jaundice, and I question not but it may proceed from an obstruction of the biliary Duct, by the *Meconium*, or some viscid Humor.

§. 3. Cure.

IT may easily be cured, by using Lixivious, oily Salts Internally and Externally. If the Belly be bound, it may be loosned with Syrup of Buckthorn, adding some Powder of Ivory; Or Syrup of Cichory with Rhubarb, or Rhubarb, and other convenient things may be put in the Nurses Drink. Afterwards things may be given to incide, and open the Choledochal Duct. Every day some drops of tincture of Saffron, or a Grain of Saffron in Substance may be given. For all things of Saffron are good. So are Sudorifics: *Sylvius* commends a Grain of *Bezoarticum minerale*. Externally divers things, mentioned in the Jaundice, will be proper.

§. 4. Chil-

§. 4.

CHildren about four days after they are Born, have a Purple Efflorescence all over their Skin, with Itching, and a little Excoriation.

§. 5.

THE Cause is, because the Childs Blood in the Mothers Womb, is often tainted with the Mother's Scorbutick Blood, which upon the approach of the external Air, received by respiration, ferments too high. And by this internal Motion the immiscible Salts are thrown off to the circumference, especially to the Intercutaneous Miliary Glands, where they show themselves by Itching.

§. 6.

THE Cure of this Disease consists chiefly in procuring Transpiration. Therefore the good Women wash the Body in warm Wine, and by gentle rubbing, open the Pores of the Skin, at which these Heterogeneous Salts, and morbid Seeds, may be discharged; and so likewise the Viscosity, acquired in the Womb, and obstructing the Pores, may be washed off. To this purpose, some use a little Soap, that they may wash the cleaner. So much for prevention. If the Disease be troublesome, several Sudorifick Alkalies must be given. In this Case also a Grain of volatil Salt, inwardly will be proper; and so will a Grain of *Antimonium Diaphoreticum*.

C H A P. III.

Of Children's Gripes.

§. I.

GRIPES are very familiar to new born Children, which not only proceed from the Curdling of the Nurſes Milk, but from either Wind or Humors peccant in an acid Acrimony. It is a ſign of Wind, when the Belly is very much ſwelled, and when they are relieved by breaking Wind. The Signs of an Acid are, beſides their Crying, Stools either Green, tinged by an Acid, and corrupted, or Yellow, and after a while turning Green, and ſmelling Sowre.

§. 2. Cause.

THE Gripes come upon young Children, from the bad Diet either of the Mother or Nurſe, to wit, when they feed upon Meat that is apt to breed a viſcous Acid, or upon high ſeaſoned Meats, which encrease Acrimony of the Bile, or upon Sawces, that are apt to breed an acid Humor.

§. 3. Cure.

Theſe things premiſed, the Cure may eaſily be performed, which conſiſts in diſcuſſing of

Wind, and in the Correcting and Carrying off the Cauſes. Among things that diſcuſs Wind, I deſervedly value *aqua carminativa Myſichti*, Water of Zedoary, Aniſe, Mint, Fenil, adding a drop or two of *Spiritus Anticolicus ex Nitro D. Michaelis*, or *Spiritus Nutri dulcis*. for inſtance;

Take of *Aqua Carminativa*, Water of Fenil, Mint each one Ounce, *Spiritus Nitri dulcis* fix Drops, *theriaca cœleſtis* three Grains, *Effentia Cutri ſaccharini Zwelferi* what is ſufficient. Mix them. Give a ſpoonful of the mixture.

If inſtead of Spirit of Nitre, one would uſe volatil Spirit of Sal Ammoniack, or any other Spirit Aromatized, he might.

When the matter is both Glutinous and Sharp, we muſt always have an Eye upon Wind, which muſt be diſcuſſed with carminative Clyſters. *Ettmuller* in this Caſe gives ſome Powder of Aniſeed with half Coral, or *Elæoſaccharum Aniſi*, or *Spiritus ſalis Ammoniacy volatilisy aniſatus*. Gripes cauſed by Wind are alſo ſtopt with Opiates, ſuch as Syrup of Poppy, or *Laudanum Opiatum* added to Carminative mixtures, as there ſhall

shall be occasion. Externally also in this Case several things will be proper, such as destilled Oyl of Chamomil, Fenil, Caraway, Aniseed, Orange-peel, mixt with boyled Oyls of Dill, Worms, Castor, also *Oleum Carminativum Myrsichti*, *Emplastrum de baccis Lauri*, applyed all over the Belly. Bags filled with Carminative Herbs may be applyed to the Belly.

When a Glutinous matter is the Cause, cutters of Phlegm are good, which are generally the forementioned Carminatives. When these things have been given, the tough matter must be carried off, by Manna, Syrup of Cichory with Rhubarb, of Peach-flowers, Roses Solutive with Senna, sharpened with a little Resin of Jalap. But when Children cannot bear Purging, the Nurse must take a large Dose, that the virtue of the Purgatives may with the Milk be communicated to the Children. If the Belly be swelled with Wind, and there be glutinous Matter besides, it will be best to give a Clyster before Purging. Externally you may use the following Oyntment;

Take of Gum Ammoniack half an Ounce, Turpentine three Drachms, Aloes, Myrrh each one Drachm, Ox's Gall one Scruple. Mix them. With Deer's Suet make an Unguent of a due consistence.

When an acid Acrimony is joyned with the foresaid Wind, or offends alone, the Cure of the Gripes will consist, 1. In removing all the external Causes. 2. In Correcting the Acid in the

Mother or Nurse. 3. In Correcting the Acid in the Child.

External Causes must be removed; such as acid Food, Sawces, or Physick, used immoderately by the Mother or Nurse. The Passions of the Mind must be avoided, Grief, Fear, and Anger. For if any such thing happen, the Breast must be drawn, before the Child suck.

The Acid may be Corrected by Spirituous and Oily things, and by fixt and volatil Salts, whether manifest or latent in Coral, Pearl, Crabs-Eyes, &c.

And to discharge this Acid, when Corrected, Aromatick Diureticks are good. This same Acid also is is corrected and expelled by Sweat.

To temper the Acid in the Child, which frets the Guts, Absorbents and Precipitants are proper. *Pulvis specificus Ettmulleri* rarely fails in this Case;

Take of Crabs-Eyes prepared half a Drachm, Harts-horn prepared without Fire one Scruple, red Coral prepared half a Scruple, red Myrrh, Castor each five Grains, *theriaca caelestis* four Grains. Mix them. Make a fine Powder. The Dose is from half a Scruple to a Scruple.

If you fear the Gripes may put the Child into Fits, as they often do, then volatil Salts will be proper. The following or some such mixture may be given by spoonfuls;

Take of Water of Flowers of Linden-tree, Fenil each one Ounce, *Spiritus salis Ammoniaci anisatus*
X x x

Of Children's Gripes.

satus half a Drachm, Crabs-Eyes prepared one Scruple, Native Cinnabar half a Scruple, *theriaca celestis* three Grains, Syrup of Mint half an Ounce. Mix them.

Or give the following Powder;

Take of *pulvis Marchionis* one Scruple, *aurum fulminans* three Grains, depurated Nitre two Grains. Make a Powder. Divide it into four equal parts. Or,

Take of *pulvis Absorbens Wedelii* one Scruple, Cinnabar of Antimony seven Grains, Castor pre-

pared six Grains, *theriaca celestis* two Grains. The Dose is from half a Scruple to fifteen Grains.

In this Disease I have with good success given *pulvis absorbens Ludovici* and *Wedelii*. Opiates are sometimes sufficient. *Theriaca celestis* or Mithridate may with a little Cotton, be put into the Navil.

Externally the foresaid Carminative and Aromatick Oyls are proper.

These said Medicines may also be given in green Stools, which proceed from a preternatural Acid.

C H A P. IV.

Of Belching, Hiccough, Nauseousness, Heart-burn, Vomiting, but especially of Curdling of the Milk.

§. I.

Children new born have often disaffected Stomachs, whence come Belching, Hiccough, Nauseousness, Heart-burn, and several sorts of Vomiting. No wonder, if a great deal of an acid, tough *Mucus* which may easily be bred of corrupt Milk, create trouble to the Stomach, and when this *Mucus* ferments, it turns to Wind, no wonder if there be Belching: but if it turn not to Wind, and cleave to the Orifice of the Stomach, it must needs by its Acrimony, velligate and corrode those nervous Parts, and so cause the Heart-burn. If the *Mucus* pass not by the *Pylorus*, the Appetite must needs be destroyed. If the Stomach be irritated and spasmodically contracted, Vomiting must needs ensue, which sometimes does the Child good, especially if it Vomits a green *Mucus*.

§. 2.

Hiccoughing is caused by Milk corrupted and coagulated by an Acid, especially if an acid *Mucus* stick to the upper Orifice of the Stomach, because of the sensible Nerves. Hereupon, by reason of its firm Connexion with the Diaphragm, this convulsive Contraction is caused, which they call the *Hiccough*.

§. 3. Cause.

FOR the most part therefore it is an acid Acrimony, which irritates the upper Orifice of the Stomach, and draws the Diaphragm into consent.

§. 4.

And since Belching, Vomiting, Hiccough, Nauseousness, and Heart-burn, differ little in their Causes, so with a very small alteration, they require the same Cure; namely things that dispel Wind, cure Belching, such as the Carminatives mentioned in the foregoing Chapter.

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In a Heart-burn arising from a Sharp, viscid Humor, sticking to the Mouth of the Stomach, all that corrects that viscid Acrimony is good, especially *essentia carminativa Wedelii*, mixt with essence of Castor, of *Opium*, internal and external Carminatives, and strengthening Nervines. I have often given the following Powder, with good success in mint Water. For Mint and its Water is *Sylvius* his Specifick in the Hiccough;

Take of Powder of Nutmeg half a Drachm, Crabs-Eyes prepared one Scruple, Castor half a Scruple, red Coral prepared, Cloves each one Scruple, destilled Oyl of Mint two Grains, *theriaca caelestis* three Grains. Mix them. Make a subtil Powder. The Dose is half a Scruple.

Those that are Elder may take now and then a spoonful of the following mixture;

Take of Water of Mint two Ounces, Cinnamon one Ounce, tincture of Amber one Scruple, *essentia Anodyna* half a Drachm, Syrup of Mint two Drachms. Mix them.

If the Contraction of the Stomach be great, and Fits be feared, then we must have recourse to Cinnabarines and Opiates; in which case the following Powder is famous;

Take of Cinnabar of Antimony two Grains, *aurum fulminans*, *theriaca caelestis* each one Grain. Mix them for a Dose. Or give the quantity of a Pea

of Mithridate or Venice-Treacle.

Sylvius in Childrens Nauseousness and Vomiting commends *Spiritus nitri dulcis*, and Opiates. To the Elder he gives, for the Hiccough, a Vomit. Then he gives *pulvis Foëlis*, highly valued by *Ettmuller* in the Hiccough. It is made of Harts-horn and prepared Coral, adding a drop or two of destilled Oyl of Cinnamon or Aniseed. He commends Aniseeds for elder Peoples Hiccough externally and internally, and Castor likewise. If the Vomit be Idiopathick, and there be a Nauseousness and Shortness of Breath, it must not be stopt, until the peccant Matter be thrown off. When that is done, the Stomach must be strengthened with the following Balsamick mixture;

Take of Cinnamon Water one Ounce and an half, Spirit of Mastich one Drachm, Essence of *terra Japonica* one Scruple, Syrup of Cinnamon half an Ounce. Mix them take a spoonful, now and then.

This Powder is *Ettmuller's*;

Take of Nutmeg one Drachm, red Coral, Cloves each half a Drachm. Mix them. Give a little at a time.

He values Treacle inwardly and outwardly. And for such as are weaned half a Drachm of Cloves, and two Scruples of Mastich boyled in Wine. I look upon this as an useful Medicine in all these Cases;

Take

Take of *pulvis Bezoardicus* one Drachm, Crabs-Eyes prepared, Cinnabar of Antimony each one Scruple, Castor half a Scruple, *theriaca cœlestis* four Grains, destilled Oyl of Cinnamon, destilled Oyl of Mint each one drop. Mix them. The Dose is from five Grains to ten.

In want of Appetite, I first give a Vomit, and then *Sal volatile Cinnamonomifatum* with Essence of Balsam of Peru; or *terra Catechu*, adding some drops of Oyl of Cinnamon, or Mint, or Mace or some Aromatick destilled Oyl.

In all these Diseases externals are good; Liniments, Oyls, Plasters, Cere-cloths, and Spirituous things must be applied to the Stomach and Belly. Here my external Balsamick mixture of Chocolate, *Confectio Alkermes*, Oyl of Nutmeg, Balsam of Peru, Cinnamon and Sack is excellent. *Oleum Stomachicum Cratonis*, Oyl of Mint, Mace, Cinnamon, &c. also a Cerecloth of *Laudanum* and *Tacamahaca* will be good. And Spirituous things, such as Spirit of Mint, Mastich, Lily Conval, *theriacalis*

camphoratus, &c. Bread dipt in Sack, and sprinkled with Oyl of Mace or Cinnamon, applied to the Stomach is good. In Vomiting Opiates, such as *theriaca Cœlestis*, may be put into the Navil, or a Plaster of Treacle may be applied. If the Excrements be variegated, Clysters give great relief. Our red Plaster applied to the Belly is good in all these cases;

Take of Gum *Tacamahaca* one Ounce and an half, Myrrh six Drachms, Mastich two Drachms, Powder of red Saunders one Ounce and an half, red Roses half an Ounce, Oyl of Nutmeg by expression two Drachms, Mastich, Wormwood each what is sufficient, Wax what is sufficient. Boyl them to the consistence of a Plaster.

Emplastrum de crusta panis may be mixt with Oyl of Mastich, and a Cataplasm of sowre Leven, and Powder of Mint, red Roses, Frankincense, Mastich and Rose Vinegar is good; or a bag of Appropriate Herbs. You may see more *L. I. Cap. 3.*

C H A P. V.

Of Loosness and Costiveness.

§. 1.

NOT only Children's Stomachs, but their Guts likewise are out of order, sometimes being Loose, and sometimes Costive. Children are generally troubled with Loosenesses about the time they breed their Teeth; and if a Looseness turn to the Bloody-Flux, it proves generally Fatal.

§. 2. *Cause.*

A Loosness proceeds either from some fault in the Milk, or from Corruption of Food, or from some sharp Matter gathered in the Guts. Costiveness arises from a tough Matter, which is also Austere, and contracts the Guts.

§. 3. *Cure of a Loosness.*

THE cure of a Loosness consists in the abovesaid Stomachicks. At first Abstergents are good, as a decoction of Barly with Syrup of Roses Solutive, and astringent Balsamicks both inwardly and outwardly. Here all Carminatives, Theriacals, Imbibers, Bezoardicks, Opiates, &c. are proper. This following is excellent to remove the Pains and Convulsions of the Guts, and to stop any Loosness, or to take off the Acrimony.

Take of *essentia theriacalis* one Drachm, *Anodyna* half a Scruple, Balsam of *Peru* one Scruple. Mix them. The Dose is a few drops, according to the Age of the Patient, and the urgency of the Symptoms.

Magistery of Coral with Citron juice, Ivory prepared without Fire, Nutmeg, Mastich, *Aqua Cinnamomi Cydoniata*, Syrup of Coral,

Coral, of dried Roses, Spirit of Mastich, *theriaca Andromachi* and *cœlestis*, and *Laudanum Opiatum Cydoniatum Hoffmani* are excellent Medicines: for instance;

Take of Water of Plantain one Ounce, *Aqua Cinnamomi Cydoniata* half an Ounce, Syrup of Coral one Ounce, Spirit of Mastich one Drachm. Mix them.

Take of Magistery of Coral, with Citron juice, Ivory prepared without Fire each one Drachm, *terra Catechu* one Scruple. Mix them for several times taking.

Externally Oyl of Quinces, Mastich, Myrtle, Nutmeg by expression, *Unguentum Comitisæ*, and the abovesaid Cataplasms and Plasters, are proper.

§. 4. Cause of Costiveness.

Children are bound because either of a tough Paste, which dulls the sense, because Bile flows not to the Guts, which should be the *Stimulus*; or of an Austere, either in the Pancreatick juice or in the Bile.

§. 5. Cure of Costiveness.

Costiveness in Children is cured by Lenitives; which must be given both to the Nurse and the Child. The Nurse may take Broth with leaves of Senna, and Aniseeds boyled in it. The Child may take a Clyster of sweet Milk, with Turpentine, and Yolks of Eggs dissolved in it. If the obstruction be pertinacious, I use to put in a little *aqua benedicta*, and then give Manna in Broth. If the matter be Viscid, and the Child elder, I give as many Grains of Powder of Jalap in Syrup, as the Child is years old: Or I give a Pill of *Pilula Angelica* or *Aloëtica*, or according to *Ettmuller*, Syrup of Buckthron alone, or mixt with Syrup of Fumitory. For Children that are weaned, he advises some Grains of *Mercurius dulcis*, which dissolves the *Mucus*, and kills Worms; a Grain or two may be given in Milk or Pap. I usually give a spoonful or two of the following Potion according to the Nature of the Disease and the Age;

Take of leaves of Senna one Drachm and an half, Seeds of Anise, Fenil each one Drachm, Acid of Tartar half a Drachm. Infuse them a night in Mallow or Mercury Water. Boyl them in the Morning on a gentle Fire. In three Ounces of the Colature dissolve one Ounce and an half of Manna. Strain it again, and add of Syrup of Cichory

X x x 4

with

with Rhubarb six Drachms,
Powder of Jalap half a Scruple.
Mix them.

Outwardly the Belly and Navil
may be anoynted with warm Oyl
of Chamomil, wherein a little
Coloquintida has been boyled,
or the Belly may be anoynted
with *Unguentum de Arthanita*,
which I have often found success
by. Goose or Hen's Grease,
applied with the outer rind of
Walnuts is good; or Suppositories

may be made of Honey with
hiera picra; or a Fig fastned to a
thred may be thrust up the *In-*
testinum rectum. If you would
have a Liniment. This or some
such may be made;

Take of *Unguentum de Arthanita*
two Drachms, Ox's Gall in-
spissated one Drachm, Aloes
half a Drachm, Oyl of Colo-
quintida half a Scruple. Mix
them. Make a Liniment.

C H A P. VI.

Of a Thrush.

§. I.

A Thrush, which is vulgarly, but erroneously, held to be Ulcers, in some slight Eschars, that arise in the heads of certain Pustules in the Mouth, fall off and come again, of divers Colours, and with various Accidents. Sometimes it comes in one part of the Mouth, sometimes in another, and sometimes in the Oesophagus, Stomach, Guts, and the *Aspera Arteria*. It is of various Colours, whereof *Sylvius de Aphthis* gives a reason, and derives it from Bile, joyned with an Acid in a different manner. Some Thrushes are soft and moist, others harsh and dry; some stick lightly to the parts, and fall off easily, others stick fast, and are removed with difficulty; some are confluent, others distinct.

§. 2. *Diagnostick and Cause.*

A Thrush is easie to be seen, sometimes like a crust, it makes as it were but one Ulcer, fretting the Cuticle, but not consuming the Flesh, as other Ulcers do. It begins at the Gums, afterwards it creeps to the Tongue,

Palate, all over the Mouth and Jaws, and by the Continuity of the Coat runs quite down the *Oesophagus*, Stomach and Guts. Children get it by the Corruption of the Milk, and an Acrimony and Acefcence ensuing upon it, which frets and excoriates the Membranes of the foresaid parts. Some blame an acid *Lympha*. But the foundation of the peccant Acid is in the Stomach, from the Corruption of the Milk. *Ettmuller* thinks, that the Acidity exhales from the Stomach, and these sharp Vapors, while they stick to the Parts, or are mingled with the *Saliva*, do by their Acrimony raise Pustules, like Eschars raised by Art. It sometimes (though rarely) proceeds from Agues, and more frequently from continual Fevers, and other Diseases, when Crude, Porraceous recrements ly in the Stomach.

§. 3. *Prognostick.*

THE event is various, according to the variety of the Thrush and its Causes. A sharp, Symptomatick Thrush is bad, a Critical one is better. It is a good one, that comes presently, and takes up but little room, if it be dispersed only here and there, if it be white, soft and moist, if it fall off

off in washing, tho it comes again, if it diminish the Disease, if it be attended with Salivation; for usually it goes away with Salivation. On the contrary that is bad, which is Livid, or Yellow, or Black, or Dry, which gives no relief, which runs all into one, and which augments the Disease.

§. 4. Cure.

THE Cure consists in correcting the Acid, in hindring it from breeding anew, in ripening and healing it. The Yolk of an Egg mixt with Rose-water and Sugar-Candy, strangely corrects the Acid in a Thrush. The juice of Turneps laid to a Thrush, with a little Honey or Sugar does the same. Juice of Grey-fish, and Speedwel is good. This that follows, seldom fails me, wherewith every day once or twice I rub the Mouth, with an Instrument wrapt in a Cloth;

Take one Yolk of an Egg, of clarified Honey two Drachms, Juice of Speedwel, Turneps each half an Ounce, Saffron six Grains, Mace half a Scruple,

Water of Speedwel and Roses each what is sufficient.

Fresh Beer, Whey, Beer altered with Figs and Liquorice, and Syrup of Jujubes are good to wash the Mouth. A Decoction of Speedwel, oleous and mucilaginous things, such as *Psyllium* and Quinces, must be given between whites, with Honey or Water, wherein Steel has been quenched, and Sage and Honey boyled.

You must take a care of Sharp things, especially Acid and Salt, Spirit of Vitriol, Sulphur, Salt, Nitre, &c. which do a Thrush much harm. We must not be forward to purge in this Disease, because a Loosness might follow, which is very bad. Therefore a Stool may be procured by a Fig. Then the gentle Sudorifick following may be given;

Take of *Bezoardicum Minerale* from one Grain to five, Bezoar stone from three Grains to seven, Saffron from two Grains to six. Mix them. Make a Powder.

C H A P.

C H A P. VII.

Of Fits.

§. 1.

THE falling Sickness in grown Persons has great Affinity with Fits in Children, only with this Difference, Children have it by Sympathy with the Stomach and Guts. And both in the Stomach and Guts an Acid is the Cause, as the cruginous, porraceous and black Excrements do testify. Sometimes Worms, sometimes Teeth, are the Cause; and oftentimes before the coming out of the Small Pox or Measles, Children have Fits.

§. 2. Prognostick.

WHEN Children yawn and stretch often, have a Quivering in their Eyes and Eye-lids, when their Hands shake, their Arms extend, when they start and tremble, and when they wake too much, Fits may be feared. If Fits be dangerous in grown Persons, without doubt they will be so in Children, when Froth appears about the Mouth, and when they shriek much. And they that in the Fit hold their Breath, or void their Excrements

involuntarily, and after the Fit are much changed, do dy.

§. 3. Cure.

THE Cure of the Fits in Children consists in a due Regulation of the Non-naturals, especially of the Meat and Drink. Nothing corruptible must be given, as Milk-meats, which are apt to curdle on the Stomach.

On the contrary their Meat must be of a good Juice; Pap therefore may be made of Broth and Bread, without any Fat or Salt. The drink must be Barly Water boyled with Aniseed, Liquorice and such things.

If you suspect an Acid, then a kindly Purgé, and a gentle Vomit will be good. Or a Clyster of Whey and Honey, or a Suppository may be given of a Candle, Venice Soap, red Beet, or a Parsly Stalk, &c.

Afterwards all things are good that imbibe an Acid, viz: Fossil and Sea Unicorn, *Rexour*, *Pulvis Marchionis*, Harts-horn, Man's Skull, Coral, Elks Hoof, *Magisterium Lune*, and a thousand other things. *Cinnabarines* exalted with *Laudanum Opiatum*, or some Anodyne, are good; or joyned with

with Precipitants. This is an excellent Powder following;

Take of Cinnabar of Antimony, Man's Skull prepared, Elks Hoof prepared each half a Drachm, Powder of the Heart and Lungs of a Mole two Scruples, *Bezoardicum Lunæ*, Emerald each one Scruple, Saffron half a Scruple, Amber-grise two Grains. Mix them.

Cinnabar of Antimony imbued well with *Clyffus* made of Antimony and Sulphur is accounted a great *Arcanum* in Fits.

Ettmuller magnifies the Meal found upon Clubinoss, because it is of a Sulphureous Nature and takes fire and cracks like Gun-Powder. Half a Scruple may be given. I have tried half a Scruple of Earth-Worms dried and powdered in a convenient Vehicle, and Ashes of a Mole, and have had good Success. Or such a Powder may be given;

Take of humane Secundine, red Coral prepared, Man's Skull prepared each three Grains, Oyl of Amber one Drop. Mix and give it in a proper Vehicle.

Many commend *Aurum fulminans* and Nitre, Spirit of Linden Tree Flowers, black Cherry, Flowers of Peony, Lily Conval, Flowers of *Stæchas*, Orange and the like, drawn after Fermentation are as good, and so are

Amber and Musk. All Medicines of Castor are good against an Acid, and so are Medicines made of Treacle, and Opiates, volatil Balamicks, such as *Liquor Cornu Cervi succinatus*, are good. Or, for Sucking Children this Powder;

Take of Crabs Eyes prepared twelve Grains, Cinnabar of Antimony four Grains. Mix them. Make a Powder. Divide it into four Parts.

§. 4.

Externally also, to correct the Acid, a Plaster may be applied to the Brain, Stomach, and Navil, of Treacle, adding a little Oyl of Amber, Amber-grise, Musk; or a *Galbanum* Plaster, with the same added. The Nostrils may be anointed with Oyl of Amber or Rew; and Spirit of Sal Ammoniack, or some other volatil Spirits may be held to the Nose.

Frictions of the lower Parts must not be neglected. Blisters may be drawn behind the Ears and on the Wrists, or Cauteries may be made in the Head. But because of the Torture, I never used them.

The Head must be strengthened with Caps; *Emplastrum epilepticum Cratonis*, and *Mynsichti* must be applied to the

the Crown of the Head, and must be worn Day and Night. The Stomach and Guts must be fenced with Internals and Externals.

Pæony Root, Wolf's Tooth, Elk's Hoof, Coral, and Eme-

rauld worn about the Neck are thought to do good.

If Fits come from Breeding of Teeth or from Worms, then such Remedies are proper as are good for those Diseases. Of which in their Places.

CHAP.

C H A P. VIII.

Of difficult Breeding of Teeth.

§. I.

THough some (as Histories record) are born with their Teeth; yet such Instances are rare. The Eye-Teeth, called *Canini* or *Incisores*, cut about the eighth Month they are sometimes a Year, seldom two, and very rarely three in coming. There is a true and a false Dentition. A False is nothing but a Swelling of the hind Part of the Gums into a sharp Protuberance, hindring the Child from Sucking, arising from Afflux of sharp Humors resembling the Cutting of Teeth.

The *Germen* of a Tooth in the Jaws is mucous and thin, like the White of an Egg, contained in its Cell, which Day by Day grows harder, till the Matter, being thoroughly hardned, breaks through, which perruption occasions many Symptoms to poor Infants, the chief whereof *Hippocrates* reckons up, S. 3. *Aph.* 25. When they begin to breed Teeth, troublesome Itch-

ing of the Gums, Fevers, Convulsions, and Loosnesses arise, especially when they breed the Eye-Teeth, and when Children are gross and costive. The true Signs of Dentition are taken from the time (which varies much) and Occurrences about the Mouth, *viz.* if they put their Fingers or any thing else in their Mouths, when they bite the Nurses Nipple, when there is an inward Heat in the Mouth, Redness in the Cheeks and Whiteness in the Gum. Itching and Pain proceed from the Teeths vellivating the nervous Fibres, in cutting the Gum, and the sharper the Tooth is the more exquisite the Pain, which made *Hippocrates* blame the Eye-Teeth, as the Authors of worse Symptoms than any of the rest.

And this Pain is augmented by the Afflux of a sharp *Lympha* through former Pain, whereby not only the Gums, but the tender Teeth themselves may be afflicted, as in the Tooth-ach of grown Persons. *Sylvius* will have the Blood to be

be extravasated and stagnate, which causes Swelling, Pain and other Symptoms.

The frequent Salivation depends upon Pain, Commotion of the Spirits, the Acrimony and Fluidity of the *Lympha*. For by Pain the Vessels of the Glands, especially the Membranes enclosing them, are usually vellicated and contracted, and so comes the plentiful Effusion of *Saliva* into the Mouth. And this *Saliva* is continually running along the Throat into the Stomach. If the *Saliva* be kindly and natural, the Defluxion proves harmless. If it be sharp, it irritates and corrodes the Throat, and raises a dry Cough. If it fall upon the Stomach it causes Vomiting, Loss of Appetite, and many Mischiefs more. When it passes to the Guts, it likewise irritates the miliary Glands, and makes them pour out more Matter to it, which occasions a Looseness, so usual in Breeding of Teeth. How Fits and Frights come may easily be gathered from what has been already said.

§. 2. Prognostick.

DEntition has some Danger in it. And there is most according to *Hippocrates*, when a Child breeds its Teeth with a Cough. There is good Hope, when a Tooth cuts quickly, when the Child is not diseased before, when the Symptoms are remiss, especially if there be no Convulsions, but all the Sym-

ptoms vanish of themselves, like a light extinguished, or a Thorn pulled out, but if a Tooth be slow in cutting, if the Symptoms daily encrease, and when one is gone another comes, when the Child's Strength is gone, the Case proves Mortal.

§. 3. Cure.

ALL Endeavours must be used, to promote the Cutting of the Tooth, to remove all Obstacles, and to mitigate the urgent Symptoms. First of all the Belly must be kept loose if it be costive, by Clysters, or *Manna*, or Syrup of Cichory with Rhubarb or Powder of Jalap. The Gums must be anointed with May Butter mixt with Liquorice Powder, the Fat of a Hen, Goose, Duck, Quail, or a Hare are good, to which last and the Brains much is attributed. They commend also the Brain of a Calf or Lamb, and Oyl of white Lilies, Sweet Almonds, Chamomil, Cream, Honey of Roses, Mucilage of Seed of *Psyllium* and Line, Juice of live Crabs with Water of Blew-bottle Flowers. A peice of Bacon, Marsh-Mallow or Florentine *Iris* Root may be given Children to be constantly sucking. Some commend new Figs split and applied to the Gums. *Timæus* and others commend a Drop or two of the Blood of a Cock's Comb hot rubbed upon the Gums. *Ettmuller* has a better Remedy; namely,

namely, the Marrow of a Calfs Leg, and Oyl of Sweet Almonds applied to the Cheek, or a Bag of emollient Herbs and Flowers or only of Chamomil Flowers, or a Plaster of Treacle may be applied to the Cheek. The Women use Coral and other hard things to rub Children's Gums with, which are naught. And

I take all their Amulets to have no other Virtue, but the Impo- fers Imagination. It is proper sometime to lance or open the Gum, and to draw Blisters, make an Issue, and apply Leaches.

This is *Willis* his Way. If there be much Pain and want of Sleep, a Drachm or two of *Dia- codium* may be given.

C H A P.

C H A P. IX.

Of Children's Cough and Asthma.§. 1. *Cause.*

A Cough and *Asthma*, are two of the most troublesome Diseases to Children. They arise generally from an acid, mucilaginous Matter, fluctuating in the Stomach which contracts the pectoral Muscles serving for Respiration, and the *Bronchia* and their Fibres likewise, whence a Cough and Hooping proceed.

§. 2.

Children also have a moist Brain, and a salt sharp Liquor always trickling down from thence, must irritate the Throat as it passes, and so cause sometimes a hooping Cough, and some of it getting into the *Bronchia*, turns to an acid viscid Matter, which must needs cause an *Asthma*.

§. 3. *Prognostick.*

IF Vomiting and Sneezing follow, it is good; but if Convulsions and other bad Symptoms appear, there is no Hope.

§. 4. *Cure.*

THE Cure consists in getting the acid, viscid Matter out of the Stomach presently,

for which purpose a Vomit gives present Relief and Ease; and in dissolving the Reliques of the acid, mucilaginous Matter by Incisers. This or the like Mixture will not be improper;

Take of Water of Hyssop, Mint, Fenil each one Ounce, *Tinctura Proprietatis* half a Drachm, Syrup of Tobacco half an Ounce. Mix, and give a Spoonful at a time. Or;

Take of Oxy-mel of Squills, Syrup of Colts-foot each one Ounce, Syrup of Radish Juice half an Ounce, *Balsamus Sulphuris anisatus* five Drops. Mix and give it to lick.

Or Juice of Radish prepared with Sugar may be given by itself or by turns. Or a little of the following Powder may be given in Milk, Broth or Pap; especially if there be an *Asthma*.

Take of *Species diaireos*, *Facula Ari* each one Drachm, Man's Skull, *Succinum Catarrhale* each one Scruple. Mix and give it.

If there be Costiveness and an *Asthma* besides, this following is good at times in Pap;

Y y y

Take

Take of Jalap one Drachm and an half, *Fæcula Bryoniæ* two Scruples, *Succinum catarrhale* one Scruple. Mix them for several Doses.

If the Cough come from a sharp *Lympha*, infesting the *Larynx*, and from a cold Air, half a Scruple or a Scruple of *Sperma Ceti* is good: Or a Spoonful of the following Mixture now and then;

Take of Water of Mint, Fenil each one Ounce, Orange Pill half an Ounce, *Spiritus Salis Ammoniaci anisatus* twelve Drops, Oyl of Mint destilled one Drop, Syrup of Colts-foot six Drachms. Mix them. A Grain or two of *Theriaca Cælestis* may be put into it.

Let the Nurse take the pectoral Decoction.

In more adult Children for an *Asthma* with Wheezing *Decoctum Spleneticum Mynsichti* is excellent, and Bleeding likewise, especially if the Child be above five years old.

Liquor Cornu Cervi succinatus and native Cinnabar are the best Medicines.

Crato and *Ettmuller* do in this

case commend, as a Specifick, a Decoction of Turneps sweetned with Sugar.

Among Externals the chief are Powder of Mastich, *Olibanum* or Amber applied with Flax to the Head, or a Plaster of *Ceratum probregmate usitatum*, and *Tacamahaca* each alike, mixt up with a little Oyl of Mastich and applied to the Crown of the Head.

If it proceed from the too great Dilatation of the Glands of the Brain, a Fume is proper of Gum Juniper, Amber, Frankincense, Mastich, *Benzoin*, and red Roses; and the Fume may be received in Cotton and applied to the Crown of the Head.

The Breast may be anointed with several pectoral Oyntments Oyl of Sweet Almonds, *Iris*, &c.

Take of *Unguentum pectorale* half an Ounce, *Resumptivum* two Drachms, Oyl of Sweet Almonds three Drachms, *Sperma Ceti* half a Drachm. Or;

Take of Oyl of white Lily, *Iris* each two Drachms, Saffron one Scruple. Mix them.

The Soles of the Feet may be anointed with the Fat of a Pike-Fish, or with Goats Suet.

C H A P. X.

Of Worms.

§. 1.

Worms spare neither Sex nor Age; but they trouble Children the most. The Child in the Womb is not free from them; for I opened one that died as soon as it was born, and found a Lump of Worms in its Belly.

§. 2. *Description.*

Worms are *living, long Animals, bred in several parts of the Body*; but chiefly in the Stomach and Guts. They are either the common, large, long and round Worms, or the small Maw Worms, or the broad Worm, which is found in the large Guts, especially in the Colon.

§. 3. *Signs.*

Signs of Worms in Children, are Rumbling and Pain in the Guts; sometimes Want, and sometimes Excess of Appetite, and so of Thirst. Shortness of Breath, a lowre stinking Breath, and a short Cough accompany them. The Nose itches, they start in their Sleep, they look pale and sickly in the Face, they have a blew Circle under their

Eyes, their Eyes sink, they are very Lean, at length they are troubled with a Palpitation of the Heart, Swoonings, Convulsions, and Epilepsie.

§. 4. *Cause.*

THE *Galensists* blame sometimes a putrid, sometimes the native Heat and sometimes both, as the efficient Cause. The material Cause they make to be sweet Phlegm (which putrefies) and Meats that breed it, as Cheese and Fruit, and any thing that they do not digest, as Flesh Meat, when they suck the Breast, and sometimes Milk alone.

§. 5.

Herimont thinks Worms are bred in the *Duodenum*, and not in the Stomach, but of half digested Food.

§. 6.

Splivus holds, that Worms come from Cramming too much Food, especially Flesh and Fruit, because they do not ferment well, and therefore lie crude a long time in the *Intestinum tenue*, and by little and little corrupting, breed Worms. From the Corruption of which Food,

he says, sharp Vapors arise, which dispersing themselves abroad, prick first the Guts, then the Stomach, and sometimes rising up the Throat, and so into the Nose, cause an Itching there. These Vapors are carried likewise by the lacteal Vessels to the Heart, and so cause a Fever; if to the Head, they occasion the Epilepsie and Convulsions.

§. 7.

Our Opinion is, that Worms arise not from Putrefaction; but the Reason why they are found in the Guts is this, Because Eggs which are either blown by Flies upon Meat, or Eggs bred in the Food, are often eaten with the Food, and are not destroyed in a Stomach that has little heat in it, such as Childrens is, (and *Helmont* derives Worms from a Vital Excrement) but bring forth, and so Worms are bred of the Food (but according as the Eggs of Different Flies are eaten, or as Heat is weaker, so divers sorts of Worms are bred) which finding Nutriment in the Guts, tarry there, and consume much of the Chyle, and when Chyle is wanting they gnaw the very Guts, and so by vellicating the Fibres they not only cause sharp Pains and a Fever; but I have seen the Guts have Holes eaten in them.

The Excrements of the Worms, mixing with the Child's, causes strange Fermentations whose subtil Particles, not squaring with the Pores of the Guts, cannot get through but are pent up, and so cause wind.

Hunger arises because the Worms consume the Chyle, and sharpen the Ferment of the Stomach.

Nauseousness proceeds from pituitous Humors in the Stomachs of such as are troubled with Worms.

§. 8. Prognostick.

Worms discovered in time are not very dangerous; because they may easily be killed and brought away. Vermination is a tedious Disease and not being taken notice of, or neglected, has killed several. Great Worms are reckoned worse than little ones, many than few, living than dead, red than white, and particoloured are worst of all; but there is no great danger in Maw-worms.

§. 9. Cure.

THE Ancients commend divers Purges and Anthelminticks inward and outward, especially things that are bitter, and have a specifick Quality. *Riverius* commends a Cataplasm of *hierapicra* applied to the Belly.

§. 10.

THE Chymists commend *Mercurius Vita*, green Spirit of Vitriol, red Oyl of Vitriol, Salt of Antimony, Tincture of Sulphur, *Tartarus vitriolatus* Vinegar of Antimony, and other things made of Mercury.

§. II.

Hellmont commends Water, that has had Quick-silver boyled in it, for killing of Worms in Children, if they drink it, or Worms in Ulcers, if they be washed with it.

§. 12.

Sylvius commends all things that correct and purge Phlegm, and especialy *Mercurius dulcis*. Among things that kill Worms, he reckons all bitter things especially Zedoary, about half a Scruple of the Powder given at a time, taking it once a day. He also commends Spirit of Vitriol or Sulphur dropt in drink, if they are thirsty, not otherwise.

§. 13.

OUR Method is either to kill them and then expel them, or to expel them alive or dead, to evacuate Phlegm and help Fermentation.

The chief things that kill Worms are Roots of Grafs, Sorell, Zedoary, *Acorus*, Gentian, Tanfy, Coral-wort, Angelica, tops of Wormwood, lesser Centaury, *Scordium*, Seed of St. John's Wort, Zedoary, Wormseed, *Mercury*, Harts-horn, Antimony, Medicines of Vitriol, Juice of Limons, acid Spirits, fixt Salts, Cinnabarines, Medicines of Myrrh and Aloes.

I will give you some Specificks, upon my own Experience; first, our golden Powder, made

of native Cinnabar, *Mercurius dulcis*, and Gold. Or;

Take of Myrrh, Zedoary, Citron Pill each half a Drachm, Cinnabar of Antimony one Scruple, Camphore half a Scruple, Oyl of Amber, Rew each one Drop. Mix them. Make a Powder. The Dose from half a Scruple to a whole one in Zedoary Water. Or;

Take of burnt Harts-horn, Coral-wort each one Drachm, Gentian Root two Scruples; Myrrh half a Scruple, Oyl of Myrrh three Drops, Tanfy five Drops, white Sugar one Ounce. Mix them. Make a Powder. The Dose one Scruple.

While they are taking these Anthelminticks, a Purge must now and then be given, especially a spirituous and aloetick one. The former Medicines may be taken either in some distilled Water, or in Water wherein Quick-Silver has been boyled. The following Lozenges are readily taken by Children, and are of Excellent use.

Take of Root of Gentian half a Drachm, white Agarick, Seed of Zedoary, Tanfy each one Scruple, burnt Harts-horn, *Mercurius dulcis* each half a Drachm, Sugar dissolved in Gentian Water what is sufficient. Make Trochisces or Lozenges.

Lozenges of *Diacarthami* are good, and if there be much Phlegm

Phlegm in the Stomach, a pretty strong Purge may be given;

Take of Syrup of Peach Flowers, Water of St. John's Wort, Purslain each half an Ounce, Powder of Coral-wort one Scruple. Mix and give it.

But because bitter things cannot so well be given to Children in such a Form; therefore we usually drop some *Tinctura Salutis*, or *Liquor Cornu Cervi succinatus* into their ordinary Drink; or if they be very Nice, we put some shavings of Harts-horn into it. This following is good to kill Worms, to prevent corruption of the Humors, and to keep the Body open. The Dose is between six and ten Drops in a Spoonful of Gentian or some such Water.

Take of *Elixir Vitrioli* one Drachm, Essence of Wormwood half a Drachm. Mix them. Give it as before.

Pulvis Comitum Warwicensis, or *contra Vermes Augustan.* or *Morelli*, prescribed in his Treatise of Fevers, is good.

A Decoction of Earth Worms, washed in Wine and dried, made with Flowers of St. John's Wort and Peach, is good to bring away Worms.

If a Child will take nothing inwardly, a Clyster of Milk is good first, and then;

Take of tops of Wormwood, Tanfy, Southernwood each one Pugil, Colloquintida tied in a Rag half a Drachm, Boyl

them in Water. To about six or seven Ounces of the Colature add a little *Confectio Hammech*, Honey of Roses and Oyl of Wormwood by Decoction. Mix and give the Clyster.

Several Suppositories may be given. I have seen a Fig bring away Worms.

Among Externals several Oyntments may be used;

Take of *Unguentum contra Vermes Augustanorum*, Oxes Gall inspissated each one Drachm distilled Oyl of Wormwood, Tanfy each six Drops. Mix them. Or,

Take of *Oleum Diacolocynthidos Quercetani* three Drachms, distilled Oyl of Wormwood eight Drops. Mix them. Or;

Take of Oxes Gall, Oyl of Wormwood, Mint each one Ounce and an half, bitter Almonds six Drachms, Powder of Peach Flowers two Drachms, *Aloë hepatica* six Drachms, Wax half an Ounce. Mix them. Make an Oyntment. Or;

Take of live Sulphur, Soot each two Drachms, Root of Elecampane two Drachms and an half. Melt them over the Fire with May Butter, and anoynt the Navil with it.

So *Unguentum de Arthanita* applied to the Navil is said to kill Worms. Or;

Take

Take of Peach Leaves, as many as you please, bruise them, add some Oxes Gall. Make a Cataplasmi and apply it to the Navil.

Oyntment made of Fat and Mercury is the most effectual thing to kill Maw-Worms.

Here follow some Empirical things to kill Worms.

The paltern Bone of a Cow, powdered and drunk in Wine.

Crollius commends the white Worms found in the inside of a wild Rose.

Dorncrellius commends a Drop of Oyl of Hazel Wood *per descensum* with Bread.

Frid. Hoffmannus says, there is nothing better than Juice of Cresses with Wine and Spirit of Wine for killing of Worms.

Kircher commends Worms, dried and powdered and made up

into a Plaster with Oyl, and so applied to the Stomach.

Varignana commends the drinking of a Decoction of *Stæchas* and Lentils, and Elecampane Root in Wine.

Weikardus commends the drinking of Rye and Hop Flowers boyled in Milk.

Wittichius cuts Onyons, steeps them all night in Water, and gives the Water to Children to drink.

There is scarce a better Medicine than burnt Harts-horn and Vinegar to be given Children.

Joh. Zapatha commends this following;

Take of Spring Water, or any other proper Water, one Pound, Oyl of Sulphur fifteen or twenty Drops.

Let the Child drink often of this, especially in the Night if it be thirsty.

Phlegm in the Stomach, a pretty strong Purge may be given;

Take of Syrup of Peach Flowers, Water of St. John's Wort, Purslain each half an Ounce, Powder of Coral-wort one Scruple. Mix and give it.

But because bitter things cannot so well be given to Children in such a Form; therefore we usually drop some *Tinctura Salutis*, or *Liquor Cornu Cervi succinatus* into their ordinary Drink; or if they be very Nice, we put some shavings of Harts-horn into it. This following is good to kill Worms, to prevent corruption of the Humors, and to keep the Body open. The Dose is between six and ten Drops in a Spoonful of Gentian or some such Water.

Take of *Elixir Vitrioli* one Drachm, Essence of Wormwood half a Drachm. Mix them. Give it as before.

Pulvis Comitum Warwicensis, or *contra Vermes Augustan.* or *Morelli*, prescribed in his Treatise of Fevers, is good.

A Decoction of Earth Worms, washed in Wine and dried, made with Flowers of St. John's Wort and Peach, is good to bring away Worms.

If a Child will take nothing inwardly, a Clyster of Milk is good first, and then;

Take of tops of Wormwood, Tanfy, Southernwood each one Pugil, Colloquintida tied in a Rag half a Drachm, Boyl

them in Water. To about six or seven Ounces of the Colature add a little *Confectio Hammech*, Honey of Roses and Oyl of Wormwood by Decoction. Mix and give the Clyster.

Several Suppositories may be given. I have seen a Fig bring away Worms.

Among Externals several Oyntments may be used;

Take of *Unguentum contra Vermes Augustanorum*, Oxes Gall inspissated each one Drachm detilled Oyl of Wormwood, Tanfy each six Drops. Mix them. Or,

Take of *Oleum Diacolocynthidos Quercetani* three Drachms, detilled Oyl of Wormwood eight Drops. Mix them. Or;

Take of Oxes Gall, Oyl of Wormwood, Mint each one Ounce and an half, bitter Almonds six Drachms, Powder of Peach Flowers two Drachms, *Aloe hepatica* six Drachms, Wax half an Ounce. Mix them. Make an Oyntment. Or;

Take of live Sulphur, Soot each two Drachms, Root of Elecampane two Drachms and an half. Melt them over the Fire with May Butter, and anoynt the Navil with it.

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Let the Child drink often of this, especially in the Night if it be thirsty.

C H A P. XI.

Of Lice, and a sore or scald Head.

§. 1.

CHildren and the younger sort are most troubled with Lice; yet sometimes, though rarely, elder Persons are so too. For Histories record, that Kings and great Personages have been eaten of them.

§. 2. *Cause of Lice.*

THE Cause is very intricate. Some make it to be the filth of the third Concoction, Others, a terrestrial Portion of the *Lympha*. Others, a putrid Blood; for *Borellus* writes, that he knows some Chymists, who can of humane Blood and Sperin make Flies and Lice. Others think, the Seed of them is carried into the Body.

§. 3.

OUR Opinion is, that thousands of Seeds of Insects lie in the Milk and other Food, which not only are not rightly altered in the Stomach, but afford bad Nourishment, which makes the *Serum* thick, which stagnating a while, and not being discharged by Tran-

spiration, must needs Corrupt, and so the seminal Principles, which before lay occult and oppressed in the *Serum*, having got at Liberty, turn into living Creatures.

Serum usually offends, because Children that are Loufy, are always in a manner troubled with Kernels or Swellings of the Glands about the Neck. And every one knows, that the Glands prepare and distribute the *Serum*, the Acidity whereof causes this Disease.

§. 4. *Cause of sore Heads.*

THE Acidity of the *Serum* also occasions sore Heads and Scald, which differ according as the *Serum* is more or less Acid or Viscous and thick. Such Diseases may also proceed from the preternatural retention of the *Mecconium*.

These cutaneous Diseases and Breakings out come in Children, because many heterogeneous and vitious Particles are gathered in the Bodies of Children, because of their Voraciousness, which should be discharged by Transpiration.

§. 5. *Prog-*

§. 5. *Prognostick.*

Lice are a tedious Disease, sometimes contagious, like the Itch, and sometimes mortal.

Breakings out and scald Heads, are wholesome for Children. They are a good Sign, but a bad Cause; for it were better they never came. However, they free Children from worse Diseases. They are very dangerous, when they strike in. Sometimes they corrode the Skull, and sometimes make Children bald, and turn to running Ulcers.

§. 6. *Cure of Lice.*

Lice are prevented by a cleanly Diet, Neatness, gentle Purg- ing, forbearing all Cacochymick Food, especially Figs, since it is manifest, they contain abundance of such seminal Principles of Lice in them, and Flesh.

This is a good Purge for a Child of five or six years Old;

Take of Powder of Jalap seven Grains, *Mercurius dulcis* three Grains, *Antimonium diaphoreticum* two Grains, Syrup of Roses Solutive, what you please. Mix, and give it.

A Pill or two of Aloes, now and then is good, for Aloes, Antimonial, Mercurial, Acid, Sharp, Ponderous, and Bitter Medicines are good.

Garlick is good. And so is a Decoction of the Woods drunk for the ordinary drink.

Among Externals, Oyntments and Decoctions of Quick-silver are much valued, or *aqua Hermetica*,

or the Cloth wherewith Gold-Smiths wipe gilded things, applied to the Head. But we must have a care how we meddle with Mercury. It were better to wash the Head with water of Aloes, and then to apply a Plaster of Garlick. Or the Head may be washed with Spirit of Wine, in which Staves-acre, and Bay-berries have been infused, or with Spirit of Lavender. Or mix some *cocculi Indi* with juice of Tobacco and Hogs Lard, and anoynt the Head. Or wash with juice of Tobacco, or of Meadow-Saffron. *Foubertus* commends this following;

Take of Ashes of Leeches one Ounce, *Styrax liquidus* half an Ounce, Swines Blood, Wax, each what is sufficient. Mix them. Make an Unguent.

Camphore and Civet are good for an Amulet.

§. 7. *Cure of a sore Head.*

FOR the Cure of a sore Head, Hydragogues, especially Jalap and *Mercurius dulcis*, are good. All volatil Alkalies are good to take off the acid and viscid Acrimony. I value Viperines. For you cannot imagine what good a few Grains of the Fat of Vipers given in Conserve of Speedwel, does, by causing Sweat. Tincture of Antimony and other Antimoniates are good to promote this Transpiration: for instance;

Take

Take of Harts-horn prepared without Fire, *Antimonium diaphoreticum*, Crab's Eyes each one Scruple, Myrrh half a Scruple. Mix them. Give a Scruple of this Powder, and repeat it.

A Decoction of Wood of *Gua-jacum* or *Sassafras*, Elecampane, Soapwort, Dock, &c. may serve for Drink.

So essence of Fumitory, *Sassafras*, and other things that correct the Serum, are good, such as Syrup of Fumitory or Birch juice, which expels much, and Syrup of Elecampane.

Shavings of Harts-horn, Flowers of Fumitory, Columbine and Scabious may be infused in Beer.

If it come from the Nurse, let her take *Pilulae de fumaria*, and Whey, with the juice or essence of Fumitory.

Lotions and Oyntments must not be used presently; but give Purgers and Expellers a while, and then use Externals. This is a good Liniment;

Take of Oyntment of Elecampane one Ounce, *Saccharum Saturni*, Camphore, Sulphur each one Drachm, Salt of Tartar half a Drachm. Mix them.

Take of Hog's Lard two Ounces, Sulphur vive half a Drachm, juice of Limons one Drachm. Mix them.

These Oyntments make the Pustules dry away and fall off.

Cranes-Bill fried in Butter, and strained through a Linen-cloth,

anoynted all over the Head, to my knowledge, is a good Medicine.

If the Sores are Malignant, Spreading, and come from a sharp Acid, the following Liniment will be proper;

Take of *lapis Calaminaris* two Drachms, Meal mixt with Vinegar or Wine, Resin, what you please. Make them up into a Liniment, and anoynt the Sores.

If the Sores run a thin and sharp Sanies, wash them with Frog-spawn-Water, strew on Powders that imbibe an Acid, and dissolve a Viscid, that dry and deterge, such as Chalk, Amber, burnt Harts-horn, *lapis Calaminaris*, Ceruss, Myrrh, Flower of Brimstone, *crocus Martis*, &c.

To promote Consolidation, in the end of the Cure we may give *essentia traumatica* with essence of the Woods, and Powder of Man's skull prepared, with Crab's Eyes prepared.

If the Pustules are radicated, *oleum Sulphuris per deliquium* mixt with Oyl of sweet Almonds, is good to anoynt them.

In a Scald, the Head may be washed with a Decoction of Willow, Pellitory, white Blite and Lentils; then anoynt with *Bayrus* his Oyntment, which I highly value;

Take of Sulphur, Seed of Pellitory each half a Drachm, Soapwort one Ounce. Mix them with juice of Pellitory, and make an Oyntment.

This

This also is a good one of *Johannes Cekkius*;

Take of Powder of Bryony, Roses, Pigeons Dung, green Sulphur each two Drachms, Blood of a Tortoise, juice of Bete each one Ounce, Saffron eight Grains, Oyl of Juniper, Bays each half an Ounce. Mix them in a Leaden Mortar.

Take of Litharge one Pound, Strong Vinegar what is sufficient. Boyl them in a Brasse-Vessel two hours. Pour the Colature into a large glass Body. Pour upon it by little and little *oleum tartari per deliquium* what is sufficient. Take the Powder that is precipitated, and strew it on the Scald.

CHAP.

C H A P. XII.

Of Children's Consumption.

§. I.

Children's Consumption is called *Atrophia*, *Macies puerorum*, *tabes dorsalis*, *Febris hectica*, and *Phtthisis*.

Description.

IT is, a Preternatural wasting of the whole Body and the Parts, through Nutrition being frustrated in Children, arising commonly from an acid and viscid Mucus, obstructing the Orifices and Passages, of the lacteal Vessels, and consequently stuffing the Mesaraick Glands, seldom from the decay of the Viscera, often from the Worms called *Comedones*. A Swelling of the Abdomen generally accompanies this Disease; for in as many as I opened, that died of this Disease, I found the Glands of the Mesentery swelled and obstructed, whereby the parts were deprived of their Nourishment, the passage of it being obstructed, so that the Parts must needs waste, the Blood likewise turning Sharp, and so unfit for Nutrition.

The Dyscrasie of the Nurses Milk and a bad food does the Child much harm. And the sharp and saline Particles are unfit for Nutrition, which by their corrosive quality do often, like a Chymical *Menstruum*, dissolve and put the Blood in Fusion, and destroy its balsamick Particles; which Union being dissolved, many Particles are discharged insensibly and sensibly by the Pores of the Skin, and other Emunctories, as colliquative Sweats, Oily Urine, and Loosness do testify, so that, these things coming, the Parts must needs be deprived of their due Nutrition.

Beside these things, sometimes through a peculiar Pravity and Corruption of Nutriment, Worms lie under Children's skins, which they call *Crinones*, *Dracunculi*, and *Comedones*. The Cause of them is hindrance of Transpiration, and a Stagnation and Corruption of *Serum* thereupon, and then a Production of occult Seeds. In this case also there is a great Acrimony and Viscidity of the *Lympha*, so Nutrition is frustrated, the Child cries continually, never Sleeps, and withers like a stick. Many Physicians will not believe, that these are true living Animals, but only viscid

cous

cous Excrements in the shape of Animals. But now it is apparent by the help of Microscopes, as *Ettmuller* and I have both of us observed, that they are true and living animals, of an ash colour, with two prominent Horns, round goggle Eyes, and a long hairy tail, horrid to look on.

§. 2.

Children in this Disease eat much and greedily, but do not thrive. The *Comedones* cause an Itching, and irritate the Membranes, which breaks Children of their rest, and makes them cry continually, and then they begin to waste and consume.

§. 3. Prognostick.

A Hippocratical Face is bad. Consumptions, that come from Inflammations, Exulcerations, Swellings, and Obstructions of the Mesentery, are dangerous. If they were born with an obstructed Mesentery, no art can cure them; if viscid Phlegm be the Cause, something may be done by proper means. If the Lungs are ulcerated, there is no Cure.

Convulsions in Consumptive Children are certain Signs of Death. When Sleep does not refresh, the case is bad.

Colliquative Sweats, Loosness, voiding of fatty Matter, by Stool and Urine are ill Signs.

If it come from *Comedones*, it is easily cured, unless it be inveterate.

§. 4. Cure.

THE Cure consists in opening a passage for the Nutriment, which, if the obstruction come from a viscid Matter, we may do by Volatils, and other Aperients, and by gentle Purgers. We may therefore give Damask-Prunes, stewed or boyled with Aperients. While they suck, Syrup of Roses Solutive may be given; but when they are weaned, they can bear no mucid thing, therefore we must forbear Syrups. *Tartarus vitriolatus*, made *Tachenius* his way, might better be given, or *arcanum duplicatum Mynsichti*: The Dose is as many Grains as the Child is years old. *Tinctura Martis vitriolata* might also do well, two drops for every year the Child is old.

If an Acid also and an Austere do both offend, and contract the Vessels, so that no Nutriment can pass, Crab's Eyes, and terrene things are good, which correct the acid Acrimony of Heterogeneous Salts. I have known several weaned Children cured with the following mixture;

Take of Water of Primrose, Crabs, lesser Centaury, *Antihæstica Schroderi* each one Ounce, Shavings of Ivory, Harts-horn prepared, Crabs Eyes prepared each one Scruple, red Coral prepared half a Drachm *tartarus vitriolatus* one Scruple, *Zulapium Resatum* six Drachms, or an Ounce. Mix them. Give every day two spoonfuls twice a day.

I also value the following Lozenges, because Children will willingly take them;

Take of *Sal Cachecticus Martis Shroderi*, Crab's Eyes each half a Scruple, *tartarus vitriolatus* fifteen Grains, *lapis Prunellæ* six Grains, *species diarrhodon Abbatis* half a Scruple, white Sugar one Ounce or two. Make Lozenges according to Art.

Some do wonderfully commend *Antihæcticum Poterii*, *Saccharum Saturni*, Medicines of Myrrh, Antimony, and the like. I lately cured a Child of my own of such a Colliquation by this Medicine following. It had always a Cough after Feeding;

Take of Water of Mint one Ounce, Citron-pill half an Ounce, Spirit of Sal Ammoniack ten drops; Salt of Wormwood five Grains, Oyl of Mint one drop, Syrup of Fenil six Drachms. Mix them, and give a spoonful at a time.

The elder Children may go into a Milk Diet, and use the things prescribed in *Book 3. Chap. of the Hectick Fever*.

Water of tree Ivy, or half a Drachm of the Powder in Water of the same is an excellent Medicine, given several times. The Belly may be anointed Morning and Evening with Capon's Grease.

Among Externals, for sweetning the Mass of Blood, Baths and Fomentations of Milk, and of a Decoction of a Sheep's head and Feet,

which must be boyled till the Flesh will slip from the Bones, and emollient Herbs may be added, root of Marsh Mallow, leaves of the same, tree Ivy, Fern, Mallow, Violet, Purslane, St. Johns wort, Bugloss with the Root, Flowers of Chamomil.

For dissolving the thick Mucilage, when there is a swelling also of the *Abdomen*, *Sylvius* his Oyntment made of *Unguentum Martiatum*, *Dialthææ*, and *oleum Philosophorum*, will be proper. Or;

Take of Oyl of Capers, Wormwood, elder each one Ounce, *Unguentum de succis aperitivis* an Ounce and an half, Gum Ammoniack dissolved in Vinegar half an Ounce. Make a Lini-ment.

Melilot Plaster may be applied to the *Hypochondria*.

The Grease that is found about the Iron spindle of a Mill-wheel, which has been greased, is good to anoynt with all, also a little fresh Butter, Hog's Lard, Sheep's Suet, and a little Oyl of Wax melted together is good.

If there be colliquative Sweats, *tinctura Antiphthifica*, all Saturnine and Aluminous Medicines give relief.

§. 5. Cure of Worms.

TO cure the *Comedones*, which Cause a *tabes dorsalis*, after the tincture of Antimony, it is good to bathe in fresh Water, with a little Honey in it, the sweetness whereof entices the Worms, and they put their Heads out of the Pores

Pores of the Skin, and then either with the Nails, with a Knife, or Razor, they may be taken off. Or the Women's way may be used, who anoint Children's backs with Honey, which makes the Worms put out their Heads, and so they are cut off with a Razor.

For killing of them *Timeus* commends water of Aloes, to wash the back withal every day. Chafing the Body, with water of

Honey and Meal, is good, which may be scraped off with a Razor, and so the Worms may be got out.

Ettmuller and I are convinced by experience, that a Decoction of Quick-silver is the best, to wash the Child withal in a Bath: for it kills the *Comedones*. You must also give *Antihecticks* and *Anthelminticks*, mentioned before.

CHAP.

C H A P. XIII.

Of the Rickets.

§. 1.

THE Rickets is, *When through an unequal distribution of the Nutritious juice, for want of it in one place, and too much of it in another, one part wasts away, and another grows over big.*

§. 2. *Signs.*

THE *Phænomena* of this Disease are a very great head, and here and there divers great Protuberances in it, a wit beyond the Child's Age, swelling of the *Abdomen*, straitness of Breast, sticking out of the *Cartilago Eniformis*, the Back and Bones crooked, big about the Joints, littlefness to stir, they must sit when they play, their back can scarce bear their head, there is shortness of Breath, a Loosness, and a weakness in all the Parts. Sometimes they grow Consumptive, have big Bel-lies, a Cough, and the like Symptoms.

§. 3. *Cause.*

THEY that write of the Rickets, make the Cause to consist in the obstruction of the spinal Marrow and Nerves, and in the defect of the nervous Influx

depending thereupon. The *Serum* is also in fault, because the Glands of the Mesentery are obstructed, which makes the Belly to swell.

§. 4. *Prognostick.*

THIS Disease seldom proves mortal, unless through the violence of its Symptoms it turn to a Consumption, Dropsie or some other Disease. They that are not cured, before they are five years old, are sickly all their Life after. The longer the Rickets is coming after the Birth, if it follow a Fever, if the Itch supervene, and the Symptoms abate, the more hope there is. If the Lungs are naught, and the Breast so strait, that they have not room to play, but cause an *Asthma*, and difficulty of Breathing, it is incurable. Adult Persons are not troubled with it, because their Head and Bones are come to their full growth.

§. 5. *Cure.*

THE Cure of the Rickets consists in the removing the viscid Matter, that causes the obstruction of the Nerves and spinal Marrow. The Cure must be begun with Purging. This is *Sydenham's* Method;

Take

Take of Tamarinds half an Ounce, leaves of Senna two Drachms, Rhubarb one Drachm and an half. Boyl them in a sufficient quantity of Water. In three Ounces of the Colature dissolve of Manna and Syrup of Roses solutive each one Ounce. Mix them, make a Potion. Let the Child, according to its Age, take a spoonful or two every other Morning for nine days.

But the Purge must be so ordered, as not to give above five or six Stools a day. Then he uses to Anoint the Belly with the following opening Oyntment, continuing it several days;

Take of Oyl of white Lily, Tamarisk each two Ounces, juice of Eriony root, Parsly each one Ounce. Boyl them till the juices be consumed, adding of *Unguentum Dialthææ* and fresh Butter each one Ounce, Gum Ammoniack dissolved in Vinegar half an Ounce, yellow Wax what is sufficient. Make a Liment.

I have cured several by this Method. I Purge the Elder with Jalap, and give our *Unguentum de Osmunda* inwardly, and use it outwardly, Anointing the back Bone and joynts with it. To such as are very tender such a Clyster as this may be given;

Take twenty or thirty *Millepedes* washed in Wine and bruised, pour to them of Posset-drink made with white Wine five Ounces. Strain it, and dissolve

in it of brown Sugar one Ounce and an half.

A Clyster may be sharpened with Salt of Tartar or some lixivial Salt, to dissolve the viscid stuff sticking in the Guts.

The Woods and their Barks, root and leaves of *Osmunda regalis*, Flowers of Spike, all opening roots, all cephalick Herbs, especially *Thea*, all Antiscorbuticks, and things full of volatil Salt, such as *Millepedes*, Earthworms, &c. are accounted specifick Alterers.

Among Chymical things the most famous is the Illustrious *Boyl's* invention, called *Ens Veneris*, which is made of Sal Ammoniack and *Colcothar* edulcorated, and twice or thrice sublimed. The Dose is from three Grains to six, in some proper Liquor, at the time of Sleep. All Ammoniacal Medicines, by reason of their tenuity of Parts, are good to remove Obstructions, the efficient of this Disease. *Mayow* commends this following Ammoniacal Salt.

Take of volatil Salt of Harts-horn, Blood or Wine a sufficient quantity, put them into a Viol with a long Neck. Drop to them some rectified Spirit of Salt, or Sulphur *per campanam* rectified, drop by drop, till there is no more Ebullition. Let this dissolved Salt be passed through a Filtre, and evaporated over a gentle Fire, till it is dry. The Dose is from three Grains to six, first in the Morning and last at Night, in a convenient Vehicle.

In the Elder sort, if the *Viscera* be firm, and sound, Chalybeates, Vitriolates, Tartarizates, Castorines and Cinnabarines do the business.

Take of *Osmunda regalis* one Drachm and an half, Male Peony, Citrine Sanders, Cresses Seed each one Scruple, the yellow part of Orange peel Candied three Drachms, Sugar dissolved in *Osmunda regalis*, Water what is sufficient. Make Lozenges of a Drachm weight a piece.

The Child may take half a Drachm or a Drachm twice a day, drinking some of *Mayow's Water* after it. This is it;

Take of root of *Aron*, Male Peony, *Osmunda regalis* or Male Fern each four Ounces, leaves of Sage, Betony, Water-cresses, Brook-lime, Speedwel, Liverwort Firr-tops each three handfuls, green Walnuts half a Pound; *Millepedes* washed three Ounces, Castor one Drachm. When they are cut and bruised, add of white Wine Posset-drink three Quarts, draw it off in a common Still, and put all the Water together. The Dose is an Ounce or two twice a day.

Our Oyntment, which we use inwardly and outwardly is this;

Take of green *Osmunda regalis* six handfuls, red Sage, Pimpernel each one handful, Fay leaves, Majoran, Rosemary each one handful and an half, juice of Motherwort, Brooklime, Water-

Cresses, Buck-bean each one Ounce, Juniper Berries one Ounce. Shred them small and bruise them well in a wooden or marble Mortar, with six Pounds of May Butter not Salted. Let them stand fourteen days. Melt it gently in *Balneo Marie*, and when it begins to ferment, strain it out, and keep the Oyntment for use.

The drink may be a Decoction of root of *Osmund royal*, Male Fern, Sage or Betony, made like Thea, or Thea it self, sweetned with Sugar-Candy.

Some bleed, scarifie, apply Leeches, Blisters, and Issues. Rubbing the Spine and Muscular parts, the hollow and not the prominent part of the Bones, with hot woollen Clothes is good. Swinging, Rolling and Exercise are good.

To keep the spine upright, Whale bone or Steel-bodies may be made, or other Chirurgical Instruments.

There was a Man, who got much Money by setting Children streight. His way was this. He had a Pendulous Instrument, so made of swathing Bands, that one Swath went about the Breast, under the Armpits, another went about the Head under the Chin; and there were two handles for the two hands. And the Body was thus held up, till it was brought into due shape.

Fomentations are good, applied to the spine and debilitated Parts. This following is good;

Take of root of *Osmunda regalis* or Male Fern three Ounces, leaves of Betony, Sage, Rosemary, Majoran,

Majoran, Water-Cresses each one handful, Flowers of Chamomil, Melilot, Elder each one Pugil, Berries of Juniper, Bayes each half an Ounce. Boyl them in a sufficient quantity of Spring Water to a Quart. Add a Pint of Wine or Brandy. Keep the Colature for use.

I have found the good effect of *Mayow's Oyntment*;

Take of leaves of Elder, Bay, Majoran, Sage, Rosemary, Betony, tops of Lavander each two handfuls, Berries of Juniper, Bay each one Ounce. Cut and bruise them. Put them in a proper Vessel with three pound of May

Butter, or fresh Butter, never salted, and half a Pint of *Aqua vita*. Boyl them gently, to the Consumption of the Water. To the expresseion, while it is hot, add of Oyl of Nutmeg by expresseion half an Ounce, Balsam of *Peru* one Drachm. Mix them. Make an Unguent,

Instead of May Butter you may take Ox's Marrow, Deer's Suet, Oyl of Worms or Fox.

Hot Baths, Natural or Artificial, are good. The Symptoms may be cured, as directed in their proper Chapters. But divers Nervines must be applied to the Spine especially, such as we have already mentioned,

C H A P.

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C H A P. XIV.

Of Galling.

§. I.

Galling is cutaneous Ulcers or excoriations between the Thighs, arising from a saline Acrimony.

§. 2. *Diagnostick.*

IT is not hard to know, because the Parts affected look red and angry; if they be touched or washed, the Child shrieks out lamentably, and so expresses the Pain.

§. 3. *Cause.*

FOR the most part Galling comes from a salt Acrimony, whencesoever that comes, though from without; whether from foul linen, or from the Part's being continually wet with the Urine, and not kept from it. For thus the tender *Epidermis* is so softened and relaxed, that by degrees it is quite eroded and separated. If the Child be very Fat, and often exposed to the cold Air, insensible Transpiration is hindered, which multiplies

a sharp *Serum*, and may contribute to the Galling.

§. 4. *Prognostick.*

THis Galling, if it be neglected, may degenerate into worse Ulcers.

§. 5. *Cure.*

IN the Cure cleanliness must be observed; the Clouts must be clean and smooth, well washed from the saline filth, and dried; or rather sappy wool may be applied to the sore part.

The good Women tie Powder of Ceruss and *lapis calaminaris* in a rag, and so pounce it on the part. Some commend *crocus Martis ex vitriolo præcipitato*. *Ettmuller* commends *terra vitrioli dulcis* or Powder of Chalk, Harts-horn and a little Ceruss, to apply to the part, when it has lost the Cuticle.

But the best and most effectual way is to wash the Groin twice a day with warm Water, or with Rose and Plantain Water.

C H A P. X V.

Of the Stone, Stoppage and Incontinence of Urine.

§. 1.

SToppage of Urine comes in Children not only from the Stone, but from viscous Matter, stopping the passages; yet Children are troubled with the Stone, as one may see sometimes three days after they are Born, when the Clouts have often red Gravel in them. When they are a little Elder, such a sediment is oft observed in the Urine. And this gross sediment may be occasioned by the Milk, gross Food, or by a hereditary disposition.

§. 2.

INcontinence of Urine is familiar to Children, by reason of the imbecillity and resolution of the *Sphincter* Muscle of the Bladder, because of the serous Intemperature in Children, which often makes it habitual and customary.

§. 3. *Cure of Stoppage of Urine.*

SToppage of Urine is cured by internal and external means, and in Children respect must always be had to the Mucilaginous acid Matter, which must be dissolved. If there be Stones, they must be expelled by gentle means. We therefore give a Scruple of white Amber very finely powdered, mixt with Powder of Crab's Eyes, or Goat's Blood in Milk or Parsly Water, or Birch Water. For the elder sort a decoction of the root of Parsly, Rest-harrow, *Asparagus*, Fenil, Butcher's Broom, &c. will be proper. For Children that are Weaned, *Joel* commends three drops of Spirit of Vitriol in good Wine.

In Spring time juice of Birch is good.

Baths and Oyntments are good. Artificial Baths may be made of root of Rest-harrow, leaves of Marsh-Mallow, Mallow, Flowers of Chamomil, &c. After Bathing, the region of the Bladder, and sometimes of the Back may be Anointed with Oyl of Scorpions or white Lily;

Lily; or a Cataplasin of bruised Chervil and Oyl of Chamomil, &c. may be applied to the *Pubes*.

If the Belly be bound, Clysters and Suppositories are good.

Divers things may be given the Nurse, as a Decoction of Rest-harrow root.

When there is a Dysury or Strangury with it, a spoonful or two of the following or some such mixture may be given,

Take of Water of Parsly, Rest-harrow, Fenil each one Ounce, *Spiritus nitri dulcis* half a Scruple, *Syrupus dialthææ Fernelii* six Drachms. Mix them.

§. 4. Care of Incontinence of Water.

IN Incontinence of Water, among other things, *Foël's* Powder is good, about half a Scruple or a Scruple of it in Oak leaf Water.

Take of the Stones of a Hare dried one Drachm, the Crop of a Cock burnt, the Bladder of a Hog burnt each half a Drachm, Acorns two Scruples, Seed of Rue, leaves of Nep each one Scruple. Mix them. Make a Powder for use.

You may see more, where we have professedly treated of this Subject.

C H A P. XVI.

Of Agues and Fevers in Children.

§. 1.

WE will now consider the Agues and Fevers of Infants, which often take them away; and therefore do well deserve our consideration.

§. 2. *Cause.*

THese continual Fevers are generally slow, as proceeding from a viscus Acid, wherewith Children abound. Sometimes there are periodical continualls, when in sucking Children the Milk is curdled by an Acid, whence proceed obstructions, which afford Matter, for a febrile Ferment, then this Ferment gets out of its receptacle at certain times into the Blood, and there disturbs its mixtion, whence periodical Fevers and sometimes Agues arise. And if this disturbance and secretion of Blood be violent, the Fever proves Malignant, and appears sometimes with spots, sometimes without. But certain it is, that all Fevers, and especially Agues have their rise from the internal Corruption of Milk, or from the external obstruction of the pores of the Skin. For thereby the perfection of digestion is hindered and spoiled, and since this error cannot be corrected in the second digestion, the Blood must needs be disturbed, and a febrile Effervescence arise in such tender Bodies.

§. 3. *Cure.*

AGues, though they seldom afflict Children, yet they are easily cured; Quotidians and Tertians by Vomits, I wish we had safer and gentler means! In this case therefore a little of the emetick Syrup may be given in Mint or Fenil Water, at several times. But we must have a care of Antimoniates. The safest way therefore is to purge, which evacuates the same Matter another way. You may therefore give a Potion of Senna, Rhubarb and other things by spoonfuls. I have often prevented the Fit and cured an Ague by giving a Clyster before the Fit came. These things premised, we may betake our selves to alteratives, and in Children's Agues, I would above all things commend Spirit of Sal Ammoniack, or instead of it the fixt Salts of Herbs; *carduus benedictus*, Wormwood, lesser Centaury, &c. or *arcanum duplicatum Mynsichti*, mixt with Crab's Eyes. Camphore may be hanged about the Neck. External topical Medicines should not be neglected. A febrifuge Plaster may be applied to the Wrists, or Horse-Radish and other things may be laid to the soles of the Feet.

As for the continual Fevers, the foresaid Purges and Clysters are good in them; after which, Spirit of Sal Ammoniack does the business, especially in catarrhal Fevers, coming

coming from an acid Lympha, and so will *Spiritus salis Ammoniaci Anisatus*, and *liquor cornu cervi succinatus*. In these catarrhal Fevers, I prefer tincture of Myrrh before all other Febrifuges. Absorbents also must not be neglected of which *pulvis febrilis Ludovicianus* is one of the best; or this following;

Take of Powder of Crab's Eyes twelve Grains, Cinnabar of Antimony four Grains. Mix them. Make a Powder. Divide it into four equal parts.

For such as are weaned *liquor tartari*, or *salis Ammoniaci cum oculis cancrorum juncti*, is best.

If the Fever be burning and the Child be thirsty, it is good at first to give a Vomit or a Purge, to get the viscid Matter out of the first ways, and then to give often a spoonful of the following or some such mixture;

Take of Water of *carduus benedictus*, *Scorzonera* each one Ounce and an half, *Antimonium Diaphoreticum* one Scruple, Harts-horn prepared without

Fire half a Drachm, Sugar-candy what is sufficient. Mix them for the ordinary drink.

Or a Decoction of Harts-horn may be given. *Ettmuller* commends Horse dung tied in a Cloth, and steeped in the ordinary drink.

For the elder sort, *nitrum Antimoniatum*, *arcantum duplicatum*, and divers acid Juleps are proper: for instance;

Take of Water of Sorel, *Scorzonera* each two Ounces, *tinctura corroborans*, or tincture of the cordial Flowers or of Daisie one Drachm, *Syrupus acetositis citri*, what will make it pleasant. Mix them.

Spaw Waters or *lapis prunellæ* in Whey may be given to such as are strong.

If malignity be feared, and the mixture of Blood be much disturbed, then beside the aforesaid things, Mixtures made of bezoardick and theriacal Medicines are proper, viz. of *diascordinum*, *theriaca celestis*, *electuarium de ovo* and such things, which you may find before in our *Book of Fevers*.



FINIS.

